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PERIPHERAL VASCULAR DISEASE.*

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Only a few years ago most of the diseases of the peripheral arteries were considered to be arteriosclerosis. More recent studies of these diseases have added much to the understanding of the arterial, capillary, venule and lymph systems. An increased knowledge of the autonomic nerves and of their relationship to the various circulatory systems has illuminated formerly poorly understood aspects of affection of the peripheral vessels. Now various divisions are made of the arteriosclerotic groups. The inflammatory, the spasmodic, the thrombotic and the embolic types have definite signs and symptoms fairly characteristic of each class. The present classification is by no means complete. With this better understanding of the diseases of the blood vessels, their treatment has decidedly improved in some types.

This related group of diseases is now being diagnosed in an earlier stage, and instead of treating gangrene when it develops, treatment is frequently curative before gangrene occurs. The physiopathologic process involving the blood vascular system has revealed interesting information regarding the more obscure conditions of visceral vascular diseases.

Five and seven-tenths per cent of the Mayo Clinic group of 500 patients of Buerger's disease showed involvement of the coronary arteries. There were three cases of abdominal involvement; two per cent had clinical evidence of cerebro-vascular involvement. Many cases of involvement of the larger arteries of the body are reported in the literature. When lesions are found other than in the extremities, they are usually degenerative in contrast to the inflammatory nature of the vessels of the feet.

Müller was among the first to differentiate clearly certain types of vasospastic conditions. Reynaud's classical description in 1862 of the disease which bears his name has remained unchanged with minor alterations as to the signs, symptoms and pathology, but knowledge has been gained in regard to the physiopathology of the disease.

Buerger clearly classified thrombo-angiitis obliterans from a chaotic state. Little advance had been made in the treatment or in determining the cause of thrombotic and embolic conditions until recent years.

The earlier clinicians stated that by palpating the peripheral arteries, about ninety per cent of the cases of peripheral vascular diseases could be recognized in the earlier stages. Progress has been rapid and it is now necessary for the competent vascular clinician to study the effects of vasospastic states in their incipiency. This is accomplished only by studying the patient as a general medical problem and not as a vascular problem.

Most capillary vessels are functionally innervated as observed by anatomical relationship of their fibers and by their physiological behavior under both normal and experimental conditions. It is further shown that the capillaries may contract independently to respond to individual circulatory needs of the tissues which they supply.

Since the capillary pressure has been directly measured in the arteriolar and venous capillary loops, the fluid exchange in the tissue is more clearly understood.

It is apparent that vasospastic conditions, whether they involve the arterial or venous systems, will have a pronounced effect on the tissues which they supply. The best gross example of this is the effect produced by arterial thrombosis of a large vessel where collateral circulation is not impaired. If gross vasospasm does not involve most of the collateral vessels, sufficient blood supply can be maintained to prevent gangrene. It is known that occlusion by a blood clot may produce gangrene when ligation does not.

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If a thrombus occurs in one of the main vessels of the leg, the limb becomes cyanotic, distal pulsations in that vessel disappear, and frequently other large vessels will become pulseless on account of severe vasoconstriction. If spinal anesthesia is given or procain hydrochloride is injected into the thrombotic vessel, or if a large dose of papaverine hydrochloride is given intravenously or into the artery just proximal to the clot, in many instances the signs of vascular occlusion will disappear. The sympathetics have been paralyzed and vasodilatation will replace vasospasm.

There is present under normal conditions a balance of fluid from the blood vessels into the tissues and from the tissues into the blood and lymphatic systems. If there is an imbalance in this normal mechanism there results a vicious circle. Anoxemia, if marked, produces a disruption of normal endothelial permeability. It is evident that any condition which increases venous pressure, such as occlusion of a vessel by a thrombus, will likewise produce anoxemia; and this will disrupt normal physiological function between the vascular system, the perivascular space and the lymphatic system. These important contributions to the knowledge of the physiology of the vascular system enable one to foresee the ominous sequelae of unrecognized and untreated vasospastic crises which obviously demand immediate and well systematized therapeutic procedures.

The most important signs and symptoms of peripheral vascular disease are: paresthesia, abnormal color, pain, claudication, coldness, trophic changes, muscular atrophy, disappearance of subcutaneous fat, thin parchment-like skin, and not infrequently slight to marked edema. There are constitutional and infectious diseases which also produce many of these symptoms, such as lesions of the nervous system, the bony structure, of the soft tissues, and many visceral disorders. When the general examination has been done carefully and completely, the next step is to be sure that one of the above conditions does not co-exist with the vascular disease.

The methods of study are palpation of arterial trunks for sclerosis, roentgenography to determine the presence of calcification, and posturing of the limbs to bring out pallor, rubor and cyanosis, and the rate of filling and emptying of the veins. The usual signs and symptoms are evaluated, and if the diagnosis is not evident, other methods may be considered, such as contrast arteriography, using thorastrast as an intraluminal medium to show collateral circulation and the degree of occlusion. Arterial elasticity can be demonstrated by the oscillometer. Magnesium sulphate is useful in determining the presence of early peripheral vascular disease. By its use the circulation time between the anticubital vein and the tips of the extremities is examined. In cases of vascular disease the time in practically all instances was increased in the abnormal extremity but not in the normal. There was also a longer circulation time in the older subjects. Histamine acid phosphate test is of value in location of vascular occlusion. In a practically normal circulation if a drop is placed on the skin and scratched in or given intradermally, a red spot develops, succeeded by a wheel and later surrounded by a flare. If there is impairment of the circulation, the wheel and flare will not appear, or will appear late.

Having established the diagnosis of a peripheral vascular disease, observation of the functional and physiological changes in the behavior of the vessels is extremely important. The amount of blood to the affected area is diminished. It is well at this point to determine the amount of true blockage (which can be but little, if at all benefited) and the amount of blockage due to vasoconstriction of the collateral circulation. The latter factor is the life line of the parts affected and upon it depends improvement or progressive gangrene.

The vasoconstriction is mostly under central control. The constricting impulses reach the vessels from the cord by the white rami communicants, then to the sympathetic chain on both sides of the cord. From the sympathetic ganglia they go over the gray rami to the spinal nerves and then to the walls in the vessels. If the sympathetic control to the affected area is interrupted the vasospastic influence is lost, thus giving a definite index as to the ability of the auxiliary circulation to carry on. This sympathetic tonus may be suspended by spinal anesthesia, by surgical nerve blocking and injection, by pentothal sodium intravenously and other related drugs, by the use of foreign proteins, such as typhoid vaccine, and by induction of artificial fever from environmental temperature. If oscillometric readings are made before and after sympathetic block, the percentage of improvement is easily recorded. By the use of a thermocouple and recording the temperature before and after one of the above procedures, a similar index is noted.

GENERAL MEASURES IN THE TREATMENT OF OCCLUSIVE PERIPHERAL VASCULAR DISEASE

Rest is the most important treatment to prevent the progression of this disease and also the most important after trophic changes, ulceration and gangrene have occurred. In the so-called pre-clinical stage, proper rest may greatly postpone the progression of this disease. Rest should be in a comfortable chair or bed. The level of the lower extremities is very important. Dependency produces engorgement, stagnation and edema, all hindering proper metabolism. Too much elevation produces blanching and ischemia.

The optimal level varies slightly with different individuals. It is at an elevation where the superficial veins project slightly above the skin. This is generally three to eight inches below the level of the heart.

Buerger's exercises, or one of the suitable variations, should be permitted if they do not increase the pain or cyanosis. There is no definite exercise applicable to all cases. In general, the time element is dependent on the color changes. The extremity affected is first elevated to 45° or 60°. From one to three minutes later there will be definite blanching; the legs are then dependent for three to eight minutes when fairly marked rubor appears and the legs are rested horizontally for three to five minutes. This procedure is repeated three or more times a day, elevating the legs five to ten times for each exercise.

Allen has suggested exercises of the feet while in the dependent position. First, the foot is flexed at the ankle, the toes are turned inward, then outward as far as possible, returned to normal, spread, and then returned to normal. This cycle is repeated with each dependent phase.

Heat: The temperature of an extremity is indicative of the state of circulation to the tissue. If it is constantly cold, the circulation is slow and impaired; if warm, it is more rapid and adequate. The circulation to the extremities is increased with heat and decreased with cold. It is, therefore, natural to apply heat, since the cold extremity further constricts an already inadequate blood supply. This principle is correct within a small temperature ratio, since additional heat increases the metabolic rate of the tissue, and, if this is increased beyond the ability of the diseased vessels to supply proper nutrition, the result will be degenerative changes of those tissues. Heat may be our most dangerous therapeutic agent. Here a new term may be applied: baking gangrene. The optimal temperature is variable and directly dependent on the circulation. A good general rule to follow is not to increase the temperature to a point where pain and cyanosis are increased. Some patients do not tolerate a temperature above 86° to 93°F. (30° to 34°C.). There are others who seem more comfortable if the surrounding media is 104°F. (40°C.). Many devices are available. The Starr Sevringhaus thermo-regulated cradles are very satisfactory.

Baths are valuable and are best given in a tub containing about twelve inches of water at a temperature between 93° and 104°F. (34° and 40°C.). Such a bath should be given twice a day. Contrast baths are also valuable, but marked changes in the temperature are not advisable, since sudden permanent occlusion may occur. The Sitz bath has the advantage of heating the thighs. Neither bath is suitable for patients with open lesions. Wet dressings have largely been abandoned, because they cool too quickly. If advisable to use them on account of gangrene, they should consist of normal saline solution or boric acid solution and should be applied for about fifteen to thirty minutes several times a day and the temperature kept constant at the individual's tolerance, usually between 93° and 104°F. (34° and 40°C.).

Reflex heat is best applied by an electric pad over the abdomen or by immersing the hands in warm water. The use of hypertonic saline solution intravenously, three to five per cent, may be quite helpful in many cases, but has many disadvantages; it is expensive, difficult to carry out, and occasionally produces thrombosis.

Typhoid vaccine has its advocates, and there seem to be good physiological reasons for its use. There have been many objections to it, but if the dilution solutions are made from the stock preparation of typhoid H antigen, 100,000,000 typhoid bacilli to one cubic centimeter, and the solution is well shaken before using, and there is no evidence of acute infection, practically all of these objections will be overcome. The initial dose is usually 5,000,000 organisms. The injections are given every third day if the effect of the last injection has subsided. The dose depends on the reaction; if 5,000,000 gives a severe reaction, this dose may be slightly lowered, but most people will require a gradually increasing dose between three and five million organisms. The dose

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may be increased to 200,000,000, but fifty to one hundred million is generally the maximum dose required. The minimal dose should give a mouth temperature of 101° to 103°F. (38° to 39°C.). There is usually a rise in skin temperature from 4° to 6°F. By this method pain is relieved and small ulcers are readily healed. Occasionally it is necessary to use triple typhoid vaccine to produce a satisfactory elevation in temperature.

Tobacco is known to constrict the small arteries and arterioles. Its use must be discontinued entirely if satisfactory improvement is to be expected. Alcohol produces vasodilatation and is definitely helpful. In one or two ounce doses of whiskey every four to six hours, it is more effective and less dangerous in relieving pain than morphine. Deproteinated tissue extract, free of insulin, histamine and acetylcholine, is not as painful as the more crude products, and has a definite place in the treatment of peripheral vascular disorders. The injections are given daily or several times a week in 2 cc. doses. Papaverine hydrochloride in half grain doses given intravenously at regular intervals or just proximal to the occlusion, if the occlusion is acute, may save an extremity. Its use as a vasodilator in the chronic cases is questionable. Crystalline testosterone propionate was given in the usual dose to a small number of patients with peripheral vascular disease with marked improvement. Vitamin B_1 in 5 mgm. doses three times a day, to be doubled in four days if there is no improvement, gave excellent results in a small group of cases.

A large amount of instrumentation in the diagnosis and treatment of peripheral vascular disease is not necessary. Mechanical therapy is accessible only to a few individuals who have both time and means. The vascular oscillating bed (Sanders) is the best for prolonged arterial exercises; that is, the alternative change from engorgement to ischemia. It is a motor bed which alternately elevates and lowers the head of the bed at regular cycles, requiring about three minutes to complete the cycle. The patient soon becomes accustomed to this gentle movement and the treatment can go on continuously or at definite intervals without fatigue to the patient. A thermostatically controlled cradle may be placed in the bed if desired. This like many other therapeutic procedures, is the most comfortable, the most effective, and likewise the most expensive.

The Pavex machine or pressure suction boot is based on the principle of fluctuations in the positive negative pressure to an extremity. This, too, operates in cycles and there remains some difference of opinion as to the frequency of the cycles and the amount of both the negative and positive pressure changes. The Harman technic is, however, most frequently followed. Its use is limited mainly to the acute embolic and thrombotic processes and to the senescent or diabetic arteriosclerotic. This treatment is definitely contra-indicated in cases of any acute or subacute condition found in the peripheral arterial diseases. It is also contra-indicated in subacute thrombo-phlebitis.

Intermittent venous hyperemia has been most satisfactory with the various groups that have used it most. In those who prefer some other type of treatment, it seems to be of less value. It is apparently of greatest value in relieving cramps and fatigue where the symptoms are due to reflex spasm. The contra-indications are: (1) increased pain with the use of the machine; (2) arterial blockage above the level of the calf; (3) active infection of the wound; (4) toxic symptoms.

The surgical treatment of peripheral vascular diseases is still of paramount importance, but fortunately is less frequently indicated than formerly. It is much better to give a thorough trial of conservative treatment—first medical, and then with minor surgery—before resorting to a high amputation. Nerve block is one of the most valuable procedures for the relief of pain and for dilating the collateral circulation that we have at our disposal in the advanced cases. Lumbar ganglionectomy is of value in those cases where more conservative treatment has failed, when the patient is a good surgical risk, the extremity is cold and moist, and there is dryness, improvement in cyanosis, and an increase in temperature after spinal or peripheral block.

Probably the most important single factor in treating this disease is to see that the patient properly applies the instructions given him. The following instructions are always advised:

1. Wash the feet daily with neutral soap and warm water if there are no open sores. Dry thoroughly with a soft cloth, avoid rubbing or irritating the skin. Apply seventy per cent alcohol to help dry the skin, then rub lanolin lightly into the skin and nails but do not daub.
2. Avoid cold by wearing woolen socks, two pairs in winter, and white cotton socks in summer if the feet keep warm. Use a clean pair of socks

each day; sleep in clean wool socks. Beware of heat; electric pads, heated cradles and hot water bottles are dangerous.

3. Shoes must be of soft leather—kangaroo tops are best. They must fit properly and new shoes should be worn only a few hours a day. If there are open lesions, cut shoes are best.
4. Antiseptics are dangerous. Do not use iodine or any strong antiseptic. See your physician for treatment of cuts.
5. Toe-nails should be cut straight across and only after the feet have been washed in water, dried and then washed in alcohol. Do not pick under the toe-nails. For any irritation under the nails, blisters or irritation about the feet, see your physician. Do not cut corns and calluses.
6. Do not stand erect for a long period; short walks only if no swelling occurs.
   Do not wear circular garters.
   Do not sit with the legs crossed.
   Do not sit with the legs dependent for too long a time.
   Do not exercise the feet except as directed.
   Do not use tobacco in any form.
   Place a small pillow just back of the heels when in bed to prevent prolonged pressure on the heels and bony prominences of the feet.
7. Eat a general diet and drink two quarts of water a day.

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FIBRO-EPITHELIAL TUMORS, CHRONIC CYSTIC MASTITIS, AND CARCINOMA OF THE BREAST.*

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Among the commonest conditions for which a physician is consulted are lumps in the breast, and pain in the breast, in women. When a physician is consulted by a woman regarding a lump in her breast, he is faced with a real emergency, just as much as though he is consulted by a person with a possible fracture of a bone, and he must at once proceed to determine the nature and the potentialities of that

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lump, calling consultation if need be. A lump in the breast of a woman may be benign, with little or no tendency to be associated with malignancy; it may be benign, with considerable tendency to be associated with malignancy; or it may be malignant from the beginning.

It is well to look at some of the benign conditions, using illustrative cases to aid in understanding the situation.

FIBRO-EPITHELIAL TUMORS OF THE BREAST

It is necessary to distinguish between true tumors and hyperplasias and cysts; and the terms "adenoma", "adenomatous", "cystadenoma" have come to be used very loosely.

Cruvielhier clearly distinguished benign tumors of the breast; called them "fibroma", and likened them to the fibroid tumors of the uterus. His report before the Academy of Medicine in Paris raised a storm of discussion and opposition, which continued (almost raged) through several sessions following his presentation. Up to that time, any lump in the breast had been considered cancer or potential cancer, and was treated accordingly. He said these tumors are round, smooth or mammelated; are hard; develop in fibrous tissue; are freely movable in the subcutaneous tissue of the breast; and are not adherent to surrounding structures. They are only local disturbances in the breast, and never develop into cancer. He said not to operate until the size and weight of the tumor requires it. They do not return when removed.

Schimmelbusch discussed fibro-adenoma of the breast, of which the characteristic feature is their encapsulation; they are freely movable in the subcutaneous tissue over the breast; are never adherent to the pectoral fascia or the muscle itself, or with the skin—unless some special factor causes adhesion to the skin, as when an exploratory incision has been made over the tumor, or where the tumor grows so fast as to stretch the skin, or when treatment with pastes causes inflammation and ulceration which leads to adhesions between the tumor and the skin. Neither are they adherent to the breast tissue itself, unless it be recent and rapidly growing tumors. They are readily removed surgically, and the presence of the tumor in the breast keeps up a fear of cancer.

It is important to keep in mind the distinction between hyperplasia and neoplasia or tumor formation; and the use of the term "adenomatoid hyperplasia" instead of "adenoma" or "adenomatous" in certain conditions that are evidently not tumors, is an improvement over the older usage.

There is confusion today, and we see lumps removed from the breast as "adenofibroma" which are not tumors: some are Bloodgood's "non-encapsulated area of chronic cystic mastitis" or his "non-encapsulated area of adenomatoid hyperplasia", or Hertzler's "interstitial fibrosis" or "interstitial hyperplasia"; and some are areas of normal breast tissue in various stages of involution.

McFarland studied 300 tissues from five large hospitals. These tissues had been indexed as fibro-epithelial tumors, under thirty-three different names. Of these tissues, 105 were tumors, 147 were not tumors, and thirty-seven could not be determined: the others were discarded because of faulty technique or inadequate material. The term "fibro-adenoma" is used for many cases which are not tumor; so McFarland says it has no meaning at all, and should be abandoned. He favors Warren's term, "periductal fibroma", for these breast tumors, since the fibrillar tissue seems to be derived from the periductal tissue.

One of our cases studied by the whole organ section method shows the formation of the periductal fibroma from the connective tissue of the gland fields.

T-59. A married white woman, twenty-nine years of age. No family history of cancer, tuberculosis, heart or renal disease. A lump was removed from her right breast, and microscopic examination showed it to be carcinoma. About three weeks later, the right breast and some of the underlying muscle, with three axillary nodes, was removed; but it was not considered a radical operation. Microscopic examination showed carcinoma in the breast, and carcinomatous infiltration in one of the three nodes removed; adenocarcinoma, Grade IV malignancy. Her recovery was uneventful. Three years later, she was delivered of a full-term child—her first child. Five weeks after birth of the child, she noticed lumps in her remaining (left) breast; and at the same time she developed a severe pain in the right hip, which continually grew worse. There were masses in the left breast: one sharply outlined mass about 10 cm. across, and several smaller lumps, cherry to plum size. X-ray examination showed a definite metastasis in the right ischium; nothing noted elsewhere in the skeleton. She was given X-ray treatment, with regression of some of the smaller nodules in the breast; but the large mass did not regress: nodules developed in the fifth lumbar vertebra and in the scalp. These were treated with X-ray, with little improvement. There was palpable evidence of enlargement of the liver and spleen: for several weeks the liver was hard and nodular, and enlarged down to the ilium; this enlargement was confirmed by radiologic and fluoroscopic examination. She died, seven months

after discovering the lumps in the left breast, and five months after reporting for examination. At autopsy, only the left breast could be removed. Section is shown in Figure 1.

Those who observed the case are of the opinion that the metastases came from the first breast (right).

Fig. 1.—(T-59). Beneath the nipple the ducts are quite widely dilated, with very little papillary ingrowth of their walls. Deeper in the substance of the breast are small cysts and dilated ducts, generally with smooth walls, and often with homogeneous red-staining contents, with no piling-up of the epithelium. The stroma is quite dense mature connective tissue, with little admixture of areolar tissue, and is continuous with the connective tissue of the gland fields, separating the alveoli within the gland fields by quite dense mature connective tissue. In some areas the mature connective tissue in the gland fields forms papillary infoldings and ingrowths in the walls of the alveoli, forming quite definite clefts, and being marked off from the surrounding stroma by the original outlines of the gland fields. As a result of shrinkage in fixation, some of these gland fields have separated in some places from the surrounding stroma, giving an indication of the capsule or sharp line of cleavage which marks off the fully developed intracanalicular periductal fibroma.

At the left end of the section is an area fairly distinctly outlined from the surrounding breast tissue, especially below and to the left. This area is made up of groups and strands of epithelial cells, with a variable but nowhere dense stroma of mature connective tissue. At the border of this area, the groups of epithelial cells are extending into the surrounding connective tissue, while the center of the area is necrotic. In the lower border of the section, directly beneath the area just described, is another area, 4 mm. in diameter, showing the same structure as the area described above.

Diffuse duct carcinoma of the fibrocarcinoma type (Grade II, Sophian), in a breast the seat of chronic cystic mastitis of the minute cyst and dilated duct type, and with an area of early formation of intracanalicular periductal fibroma, showing at least one mode of formation of this type of fibroma in the substance of the breast.

Here we see the different conditions in different parts of the breast: dilated ducts beneath the nipple; small cysts and dilated ducts in the substance of the breast; and two nodules of cancer. One of the most striking conditions seen in this section is the growth of the connective tissue in the gland fields to form papillary ingrowths and infoldings of the walls of the alveoli, to form definite clefts; the original outlines of the gland fields marking these fields off from the surrounding stroma, with separation along some of these outlines, indicating the capsule or sharp line of cleavage which marks off the fully developed intracanalicular periductal fibroma. That is, we see here the mode of formation of the periductal fibroma in the substance of the breast.

It is not intended to discuss fibro-epithelial tumors at length here; but it is desirable to point out certain features in connection with some of these tumors, with the idea of reducing the present-day confusion.

1. *Periductal Fibroma* is a common tumor in the female breast. It occurs chiefly in young women, beginning (or first being noticed) at or shortly after puberty, growing during the years of sexual activity. It is common in nullipara. It is oval or egg-shaped, often bossellated; and is freely movable. Usually single, there may be two or more tumors; the rest of the breast is usually normal. The tumor is usually well encapsulated, and commonly can be shelled out of its capsule.* With the rich blood supply to the capsule at times, there may be adhesions where the blood vessels enter. Three types are recognized: (a) intracanalicular, the most common type; (b) intercanalicular; and (c) pericanalicular, rare.

*Part of the confusion between tumors and non-tumors is probably expressed in the statement that the tumor may be only partly encapsulated, being continuous with the surrounding breast tissue on one side. These partly encapsulated lumps are commonly not tumors.

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T-74. A married white woman, thirty-five years of age; three pregnancies, last eight years ago. Menstrual cycle somewhat irregular, duration four to five days, flow profuse. General health good. History of injury to breast; growth appeared in right breast two months prior to operation; breast tender, and growth continued to increase in size to time of operation. No discharge from nipple. *Operation:* simple mastectomy. No X-ray treatment. Section is shown in Figures 2 and 3.

Though these tumors may grow to be quite large. There is very little tendency to malignant change, even in very cellular and rapidly growing tumors.

Müller gave the name, *cystosarcoma phyllodes*,

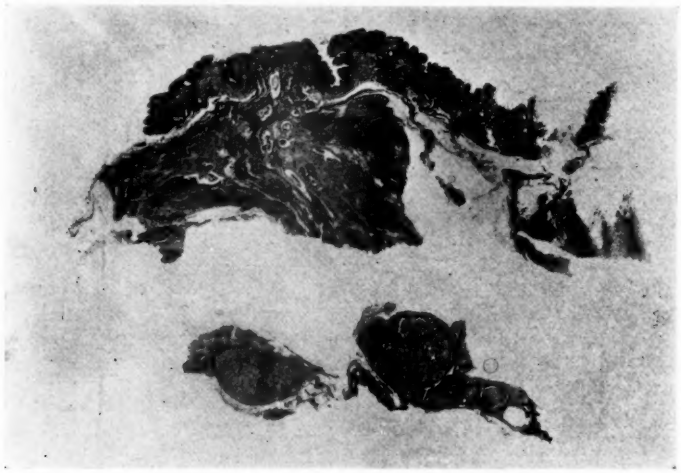

Fig. 2.—(T-74). The ducts beneath the nipple are dilated and show marked papillary ingrowths of their walls; these papillary ingrowths covered by a layer of epithelium 3 or 4 cells thick. Deeper in the substance of the breast are small cysts and dilated ducts, some with smooth walls, some with papillary ingrowths of the walls; some are empty and some contain granular red-staining material. In general, the gland fields are in good condition, with the alveoli not dilated and no piling-up of the epithelium, and the loose connective tissue infiltrated with lymphocytes. The stroma is quite dense mature connective tissue, without much admixture of areolar tissue.

Separate from the main breast specimen, but belonging to it, is a circumscribed firm white nodule, shown in section in the lower part of the figure. This nodule is shown in Figure 3.

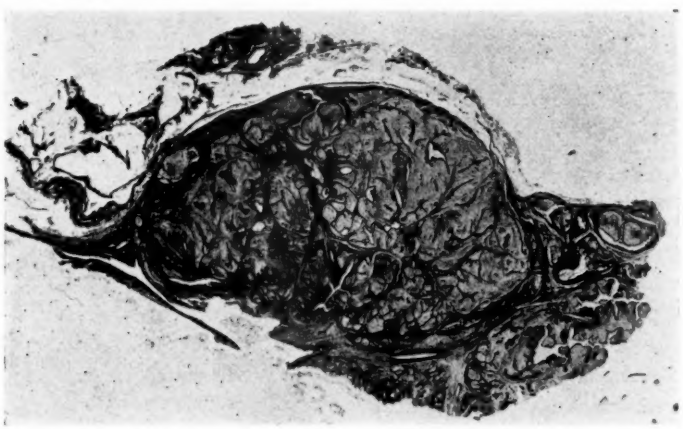

Fig. 3.—(T-74.) The section of the nodule shown below and to the left in Figure 2. The sharp outline of the nodule is distinct; and in the substance of the nodule are clefts and spaces lined by epithelium, the lighter ingrowths being composed of very loose immature connective tissue. X6.

Intracanalicular periductal fibroma, in a breast with dilatation and papillary ingrowths in the ducts beneath the nipple, with an area of chronic cystic mastitis with minute cysts. There is no evidence of malignancy.

to a rapidly growing intracanalicular periductal fibroma, with large and very cellular papillary infoldings of the duct walls; and when the tumor becomes adherent to or perforates the skin, it gives a false appearance of malignancy. On his visits to various museums, Müller saw specimens of this tumor—up to eight and one-half pounds in weight. All were in the breast; one in a male breast. He devotes four of the sixty pages in Part One of his book to a discussion of this tumor, which he recognized as benign; no adhesions; no softening; have nothing to do with cancer; and are cured by removal. This tumor usually occurs in younger women than does cancer.

Fig. 4.—(T-11). Above, the tumor is bordered by the greatly thinned and flattened epidermis. In the center is a large duct with very cellular (stains black) papillary infoldings of its wall into the lumen. Above is another duct presenting the same picture; and at the extreme left is another duct presenting very much the same picture. At the right is another duct presenting the same picture; and at the extreme right are smaller ducts with less marked infolding of the walls. In the center and above, the stroma is loose and fatty (pale staining); below, the stroma is much more fibrous (darker staining). X1½.
Intracanalicular periductal fibroma, with markedly cellular papillary infoldings of the duct walls, and loose fibrous and fatty stroma (Müller's *Cystosarcoma Phyllodes*).

Though Müller devoted so much attention and space to this tumor, no mention is made of it in many of our present-day publications (Ewing has it in his Neoplastic Diseases); and it leads to confusion today, as illustrated by the following case, observed in a large cancer hospital.

T-11. A married white woman, fifty-four years of age, noted a lump the size of a marble in her left breast: this lump grew rapidly, and in two months measured 9x10 cm. It was freely movable over the chest wall, but showed some attachment to the skin. The *clinical diagnosis* was bulky carcinoma, and the breast was removed. Section is shown in Figure 4. The wound healed, and there was no evidence of disease, one year later.

Though these tumors grow rapidly and to a large size, there is little tendency to malignant change; but a few cases have been reported in which a sarcoma developed on the basis of one of these tumors, so removal is indicated.

2. Duct Papilloma. Other names are: adenocystoma, papillary cystoma, intracystic papilloma, proliferous cyst, hemorrhagic cyst. These tumors occur in older women, most commonly after the menopause, often in breasts the seat of chronic cystic mastitis. It begins as a papilloma in the wall of a duct, most commonly beneath and near the nipple; as it enlarges, it distends the duct, and often forms a solid palpable mass. There is a rich blood supply of thin-walled blood vessels, which explains the characteristic symptom of bloody discharge from the nipple. Reclus' case with an egg-sized tumor, and bleeding from the nipple, in a breast the seat of chronic cystic mastitis, probably belongs here. Eberts says that papilloma develops in ducts, in many instances in pre-existing ductal cysts, and tends to become malignant.

T-72. A married colored woman, twenty-nine years of age, entered the hospital with a lump in the left breast, and bleeding from the nipple: duration and size of the lump not given in the history. On examination, there was a lump in the middle area of the lateral half of the left breast, having a small attachment just below the nipple. With pressure on the mass, blood escaped from the nipple. *Clinical Diagnosis:* duct papilloma. *Operation:* a mass, 3x5 cm. was removed from the breast. Section is shown in Figure 5.

There is a quite marked tendency for these tumors to become malignant; and they must be regarded with suspicion, especially when the discharge from the nipple contains fresh red blood cells.

CHRONIC CYSTIC MASTITIS

In any discussion of chronic cystic mastitis, it very promptly becomes evident that not all in the discussion have in mind the same condition of the breast. Thus, a discussion of the relation of chronic cystic mastitis to carcinoma of the breast often resolves itself into a discussion of the relation of blue-domed cyst to carcinoma of the breast. In a recent discussion, a radiologist expressed surprise that so many of the carcinomas of the breast which I showed in whole organ sections were in breasts the seat of chronic cystic mastitis; and a surgeon did not see the chronic cystic mastitis in the sections I was showing: he considered "chronic cystic mastitis" to mean "blue-domed cyst".

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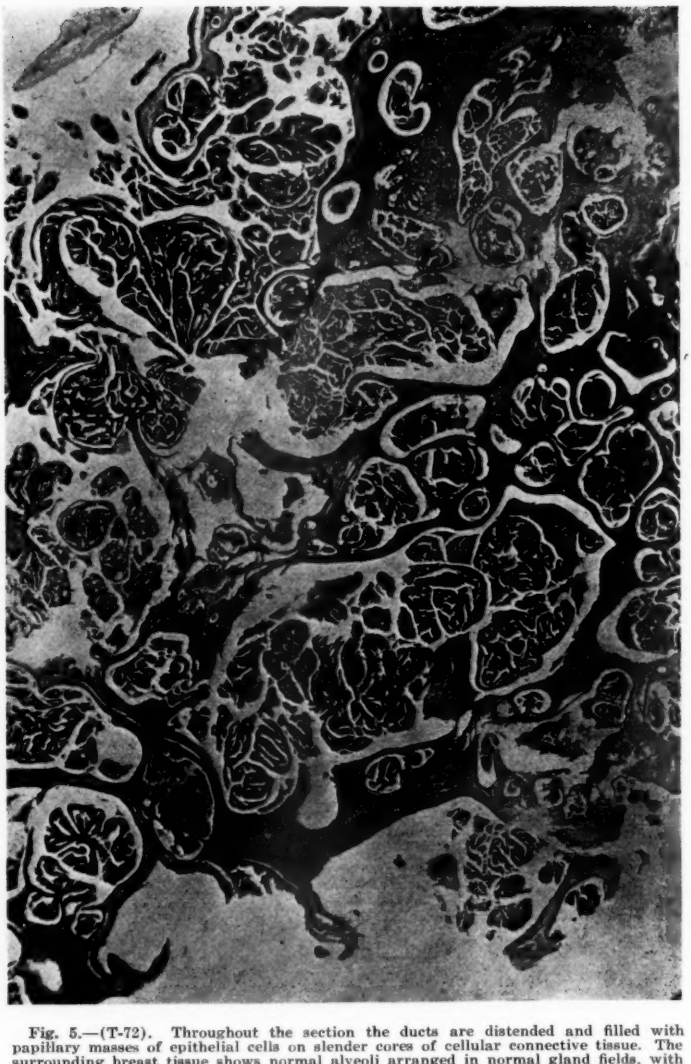

Fig. 5.—(T-72). Throughout the section the ducts are distended and filled with papillary masses of epithelial cells on slender cores of cellular connective tissue. The surrounding breast tissue shows normal alveoli arranged in normal gland fields, with lymphocytic infiltration of the loose connective tissue of the gland fields. X15. Duct Papilloma.

So, it seems worthwhile to survey the development of our knowledge regarding the condition known as chronic cystic mastitis, to see if we can get a more uniform understanding of the condition, and of the process.* Such a uniform understanding is especially necessary for the surgeon, the radiologist, and the pathologist, since these three make up the nucleus of the group who are studying lesions of the breast.

Sir Astley Cooper described cases of Diseases of the Breast: some of his cases of Hydatid Disease are recognizable as what is later called chronic cystic mastitis; and one of his cases, a twenty-nine-year-old woman, developed a cancer in a breast showing small cysts.

Brodie described the condition in his lectures on Sero-Cystic Tumors of the Breast.

Virchow described the condition as Interstitial Mastitis; and cited other names for the condition at

*This phase of the subject is discussed at some length in my presentation at the Third International Cancer Congress, in Atlantic City, N. J., September 11, 1939, and published in the *Boletin Cientifico de la Liga contra el Cancer, 15,* 105 (May-June), 1940.

that time. The condition develops in the interstitial tissue of the breast, and many breasts are removed on account of fear of carcinoma. There are two stages: (1) inflammation, characterized by leucocytic infiltration of the interstitial tissue, and (2) proliferation of the epithelium in the lobules.

König described the condition, adopting Virchow's name of interstitial mastitis; and this description goes through the various editions of his textbook of special surgery.

Billroth discussed chronic mastitis, but his cases are not what we know as chronic cystic mastitis today.*

Reclus described the condition as cystic disease of the breast; said that cysts of the breast are very common; that there are two distinct characteristics of the condition: (1) the cysts are quite numerous and occupy the entire breast, and (2) the cysts are bilateral.

Schimmelbusch described cases of cystadenoma of the breast; he described the feeling on palpation as of a bag filled with shot. The condition is benign, but carcinoma developed in the breast of one of his cases. He cited forty-three cases of cystadenoma (Reclus thirty, Burchkart four, Rovsing one, Tischendorf one, Schimmelbusch seven) in three of which carcinoma developed later. He says the condition is different from the senile or involution cysts of the breasts of older women: in cystadenoma there are numerous cysts and hypertrophy of the gland; while the senile involution cysts of the breast is a result of atrophy of the breast, and in several cases there was only one or two cysts, frequently with only scant strands of breast tissue. In cystadenoma, the first change is an increase in the epithelium of the acini, so that some of the acini come to be lined with several layers of epithelium, which in some cases entirely obliterates the lumen. The acini are enlarged by the increase in epithelium, in great part at the expense of the interacinar connective tissue, so the acini come to lie in contact with each other. The proliferated epithelial masses break down in the center, and the acinus assumes the appearance of a small cyst.

König returns to the discussion of "Chronic Cystic Mastitis" (interstitial mastitis, cystadenoma of the breast, Reclus' disease). In his textbook of special surgery, in 1875, he described as interstitial mastitis (following Virchow's designation of the condition) a disease of the female breast which stands between inflammatory processes and tumors, "an extremely frequent process in the breast, which leads to the formation of numerous especially smaller, but also larger and larger, cysts". He is astonished that surgeons describe such a cystic breast as a very rare occurrence; that even German surgeons say they received an insight into this "new disease" on becoming acquainted with "Reclus' Disease"; and he is not entirely free of surprise when Schimmelbusch, on the basis of six observations, again gives the disease a new—and, according to König's idea, a false—name. But he is not surprised that none of the authors have take the trouble to look in any of the editions of his book, to see whether anything regarding the disease is to be found there: he is not surprised, as he has long been accustomed to that.

He had fifteen preparations from women who feared cancer and would not accept the assurance that their breast tumors were not carcinoma but were inflammatory; numerous clinical observations, and in some carcinomatous breasts he has found a coexisting mastitis; in many cases the development of the carcinoma can be understood in the histologic picture only when one understands the mastitis.

So, he considers "Chronic Cystic Mastitis,"* as he will henceforth call the condition, a very frequent disease.

Chronic cystic mastitis occurs in every age period after puberty, and frequently involves both breasts. Characteristically it has a typical course, even in young women: one or both breasts swell and become painful during menstruation, and not infrequently the axillary nodes swell at the same time. With cessation of the menses, the general swelling disappears, but individual nodules remain and gradually become leather-like hard. But not all cases develop this way; and, as the course may infrequently be without pain, no attention is paid to it, and the woman is first disturbed by a gradual hardening of the breasts, *by the appearance of numerous leather-like hard indurated tumors.* If there are no larger cystic nodules, a symptom characteristic for the differentiation of these tumors from neoplasms is: while one can pick up one of these nodules between the thumb and finger, they disappear as nodules as soon as the breast

*Billroth does not use the name "chronic cystic mastitis", though some later writers ascribe that name to him.

*The first time I find the term in the literature.

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with the apparent nodules is pressed against the chest wall with the flat of the hand.

This may continue for years. Usually there is no anxiety until one or more distinct nodules become evident in the affected breast; rarely larger than a pigeon's egg, frequently smaller and smaller; they are distinguished by their egg or spherical form, their elastic tension, and fluctuation.

Papilloma and carcinoma apparently develop in a mastitic breast more frequently than in a healthy breast.

The histologic picture is characteristic. It is made up of certain changes in the gland substance, with at the same time certain changes in the interstitial tissue. The lumen of the small vesicles as the small ducts, begins to fill with cells, the epithelium frequently appears to be in layers, as a result of rapid proliferation, though the new layers are regularly thrown off. As a result of this, the walls of the vesicles are distended, the vesicles come in contact with one another, the intervening walls disappear, and larger spaces are formed, which contain mostly a watery or mucoid dark-colored fluid together with firm masses. In the same way the ducts are enlarged to form cysts. By the confluence of several and many of these spaces, and by their enlargement, is developed larger and larger cystic spaces. It makes no difference whether new acini are formed, or only the existing terminal ducts are involved—and König does not undertake to distinguish which is more frequent. So, it is incorrect to speak of an "adenoma", else one would have to speak of the lactating breast as adenomatous.

The connective tissue is swollen and contains nuclei, and is infiltrated with leucocytes. The older nodules are recognizable by the fibrous firmness of the interstitial tissue; this firmness causes the peculiar indurated hardness of the nodules which usually extend gradually throughout the entire breast.

The gross appearance is characteristic; the cystic appearance usually is more marked in the portion of the breast toward the pectoral muscle. One sees larger round nodules as brown colored spherical or egg-shaped sections, or small gray nodules on the cut surface; not infrequently numerous dark vesicles the size of the head of a pin, often grouped together like grapes. If one cuts the smaller and larger vesicles, the fluid spurts from the larger ones as a sign of the pressure on the cyst wall. Sometimes the larger ducts are dilated. The cut surface of the breast appears moist, at times mucoid, with fissures and open vesicles of different size; and other vesicles bulge on the cut surface.

König repeats: this disease must be taken into consideration, *clinically and pathologico-anatomically,* in all chronic diseases of the breast. Also, chronic cystic mastitis is extremely frequent as a disease by itself, and as a complication of other diseases of the breast.

Paul said there is a very intimate connection between chronic inflammatory conditions of the breast and tumor formation; and he removed the breast for inveterate chronic mastitis.

Warren suggested Abnormal Involution of the Breast as the most satisfactory name for the condition.

Bloodgood, in 1906, called the condition Senile Parenchymatous Hypertrophy of the Breast, and said it occurs in the breasts of women forty to fifty years of age, his youngest case being thirty-three years of age. It is a single pathologic process—two types: (1) cystic—(carcinoma rare), (2) adenocystic—(carcinoma is frequent). In the adenocystic type the dilated ducts and acini are filled with proliferating epithelial cells. This adenocystic type is the one described by Schimmelbusch; and "carcinoma is so frequent that I believe in every instance the entire breast should be removed, and in some cases both breasts".

In 1921 came Bloodgood's great work on chronic cystic mastitis. He distinguished two types, with eight subtypes, as follows:

1. Single or multiple cysts in chronic cystic mastitis	210 cases
(a) The blue-domed cyst	174 cases
(b) The cyst of the galactocele type	8 cases
(c) The multiple blue-domed cysts in one or both breasts (diffuse cystic disease of the breast)	28 cases
2. Chronic cystic mastitis without large cysts	140 cases
(d) The non-encapsulated adenomtous area	48 cases
(e) The non-encapsulated area of chronic cystic mastitis, containing one or more minute cysts, or one or more dilated ducts, or both	39 cases
(f) The diffuse dilatation of the ducts, chiefly in the nipple zone, rarely in the breast outside this zone	22 cases
(g) The non-encapsulated cystic adenoma	18 cases
(h) The diffuse non-encapsulated cystic adenoma, known in the literature	

as Schimmelbusch's or Reclus' disease, or senile parenchymatous hypertrophy (Bloodgood) ---------- 13 cases

In this article, Bloodgood gave special attention to the blue-domed cyst. "Of all the gross types of chronic cystic mastitis, this blue-domed cyst is the easiest to recognize and one of the most frequent in occurrence."

McFarland discussed Residual Lactation Acini in the Female Breast. He said retention of secretion is common, and the result is residual lactation acini—harmless decadent structures, having no significance in respect to subsequent appearance of malignant disease.

In 1922, Bloodgood discussed the clinical picture of the diffuse type of chronic cystic mastitis (Schimmelbusch's disease; the shotty breast); and again in 1929; in 1922 he reported six cases, twenty-four to thirty-seven years of age, and says that when the condition is unilateral, it is safer to perform the complete operation for cancer; but, when it is bilateral, and not associated with retraction of the nipple, operation is not indicated; in 1929 he says that the prevalence of this type of chronic cystic mastitis has increased, and he has come to the conclusion that it is not a pre-cancerous lesion, but that cancer may develop in such a breast, just as well as in any other breast. In 1906 he called it "Senile Parenchymatous Hyperthrophy", and considered it precancerous, with at least a 50 per cent probability that cancer would be associated with it.

Cheatle and Cutler described the condition as Desquamative Epithelial Hyperplasia, of which there are two types: (1) mazoplasia, which is a physiological process; and (2) cystiferous epithelial hyperplasia (chronic cystic mastitis, cystic disease of the breast, etc.). Twenty per cent of all cancers of the breast begin with the cystiferous state; it is difficult to say how much of cystiferous hyperplasia ends in cancer.

Hertzler discussed the condition as Parenchymatous Hyperplasia (chronic cystic mastitis, etc.), and said that true cysts are not a part of the process. Almost one-fourth of cancers of the breast have their origin in these hyperplastic areas. He includes blue-domed cyst in the cysts of the mammary gland.

Eberts said the epithelium of the large cysts is atrophied by pressure, and so is seldom the seat of malignant changes. It is in the smaller multiple cysts, that is, areas of fine nodulation, that carcinoma develops.

T-3. This is the only specimen we have in our material showing Bloodgood's Type I, single or multiple cysts in chronic cystic mastitis, subtype (c), the multiple blue-domed cyst in one or both breasts (diffuse cystic disease of the breast). The specimen was sent in without any information, and no information has been obtainable. Section is shown in Figure 6.

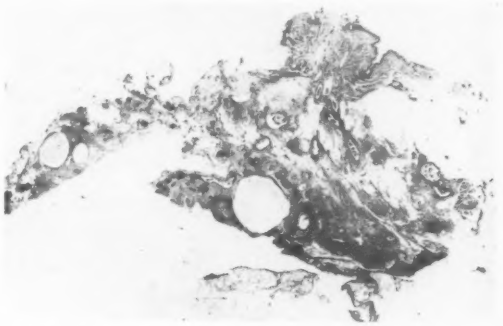

Fig. 6.—(T-3). The feature of this section is the cysts, up to 1 cm. in diameter (they were much larger in the fresh state when distended with fluid); the larger ones with smooth walls lined with a single layer of flattened epithelium, the contents having escaped when the cysts were opened. The smaller cysts are of the same nature, with an occasional papillary infolding of the wall, and at times with homogeneous or granular contents. Many gland fields are in good condition, with the alveoli lined by a single layer of epithelium, frequently in good condition, at times vacuolated—especially the basal cells; in such gland fields, there is lymphocytic infiltration in the loose connective tissue of the gland field. Still other gland fields show one or more alveoli dilated and branched and at times extending beyond the normal border of the gland field, the other alveoli in the gland field showing no change. Nowhere is there piling-up of the epithelium, and very rarely is there accumulation of cellular debris in the lumen of the dilated ducts. The stroma is mature but not dense fibrous tissue, with lymphocytes dotted throughout. There is some fat scattered through the fibrous tissue; but fat is not a feature in this section. The ducts beneath the nipple are dilated, and contain homogeneous or granular material, the walls showing papillary infoldings.
The multiple blue-domed cyst (diffuse cystic disease of the breast), in a breast not markedly involuted, and under estrogenic influence.

T-31. An unmarried white woman, forty-five years of age. For some time she has felt a gradually increasing pain in the right breast. On examination, there was a large mass in the right breast, adherent to the underlying tissues; there was no ulceration. *Clinical Diagnosis:* carcinoma of the right breast. *Operation:* radical removal of the right breast, including the pectoral muscles, and dissection of the axilla. The patient was well and at her duties as a teacher four years after the operation. Section is shown in Figure 7. This is a typical specimen of Bloodgood's Type 2, chronic cystic mastitis without large cysts, subtype (h), the diffuse non-encapsulated cystic adenoma, known in the literature as Schimmelbusch's or Reclus' disease, or senile parenchymatous hypertrophy (Bloodgood).

In these two sections, one sees the difference in the picture of the two types of chronic cystic mastitis of Bloodgood. In Figure 5, one sees the large cysts,

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with a lining of very thin flattened epithelium, with no evidence of piling-up of the epithelium in the lumen. In Figure 6, one notes the absence of large cysts, the marked activity and piling-up of the epithelium, and the small cancer in the lower portion of the section. Figure 5 corresponds to Bloodgood's blue-domed cyst, and one does not expect cancer to develop in such a breast. Figure 6 corresponds to Bloodgood's shotty breast, with all of its synonyms, and one expects cancer to develop in a fair number of such breasts: of our 16 cancers of the breast studied by the whole organ section method, three are

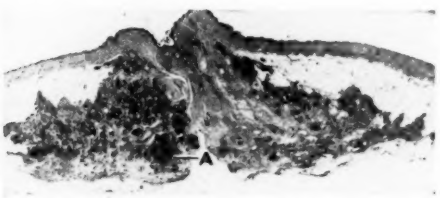

Fig. 7.—(T-31). Below and slightly to the left of the inverted V space, is an area (indicated by A), 6 mm. in diameter, which stains uniformly finely granular. This area is made up of masses of epithelial cells, with considerable loose connective tissue separating the masses of cells. The cell nuclei vary considerably in size, though none are very small or very large; there is rather uniform staining, with very little tendency to adenoid arrangement, and few mitoses. There is moderate fibrosis, and moderate lymphocytic infiltration.

Throughout the breast, the ducts are dilated to extend well beyond the limits of normal gland fields, and are lined with several layers of epithelial cells, with cellular and granular debris in the lumina. Scattered through are normal gland fields, showing lymphocytic infiltration in the loose connective tissue of the gland fields.

Diffuse duct carcinoma of the carcinoma simplex type (Grade II, Sophian), in a breast the seat of chronic cystic mastitis of the parenchymatous hyperplasia (Schimmelbusch—shotty breast) type, under estrogenic influence.

in breasts the seat of this type of chronic cystic mastitis. So, those who say that cancer does not develop in a breast the seat of chronic cystic mastitis are right when they are thinking of the type with large cysts, which includes blue-domed cyst; those who say that cancer does develop in a breast the seat of chronic cystic mastitis are right when they are thinking of the type without large cysts, which includes Schimmelbusch's disease, or the shotty breast.

But, while these two types of chronic cystic mastitis are of special importance in connection with the tendency of cancer to develop in breasts the seat of chronic cystic mastitis, in neither one of them do we find definite lumps in the breast; and this phase of the situation forms an important part of our discussion today. Illustrative cases are as follows.

T-75. A married white woman, twenty-eight years of age; two children. Menstrual periods somewhat irregular; flow profuse. About ten years ago she injured her breast, and there has been a lump in the breast since that time. Following the birth of her second child the lump began to give more trouble, and was painful at her periods. *Operation:* a single lump was removed from the breast. No X-ray treatment. The patient remains well. Section is shown in Figure 8.

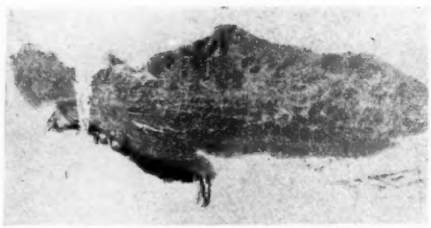

Fig. 8.—(T-75). The section shows no evidence of encapsulation; the dark strip below is an area of loose breast tissue intensely infiltrated with red blood cells. The abundant darker areas through the section are the gland fields, the lighter patches are the mature connective tissue stroma. The gland fields are greatly enlarged, with numerous alveoli, the loose connective tissue of the gland fields showing lymphocytic infiltration.

Non-encapsulated area of adenomatoid hyperplasia (Bloodgood's first subtype in his second type: chronic cystic mastitis without large cysts). There is no evidence of malignancy. It is not a tumor.

This is Bloodgood's Type 2, subtype (d), the non-encapsulated adenomatous area; or, in the present-day nomenclature, non-encapsulated area of adenomatoid hyperplasia. Though frequently spoken of as a fibro-adenoma, it is not a tumor. There is no great tendency for cancer to develop in such a lump: the restlessness and hyperplasia of the epithelium is evident, and such lumps are best removed; but there is no need to remove the breast.

When these areas are more diffuse and not so sharply outlined, they are more of the nature of Bloodgood's Type 2, subtype (e), the nonencapsulated area of chronic cystic mastitis, containing one or more minute cysts, or one or more dilated ducts, or both: we have several breasts of this type which were removed on account of suspected carcinoma. One of these cases is as follows.

T-71. A married white woman, fifty-three years of age. She discovered a painless lump in her left breast. *Clinical Diagnosis:* carcinoma of the breast. *Operation:* she was given a course of irradiation, and then the complete operation was done. Section is shown in Figure 9.

While it is not necessary to remove the breast in these cases of the non-encapsulated area of chronic cystic mastitis, containing one or more minute cysts, or one or more dilated ducts, or both, it is to be noted that of our sixteen cases of carcinoma of the breast studied by the whole organ section method, four were in breasts the seat of this type of chronic cystic

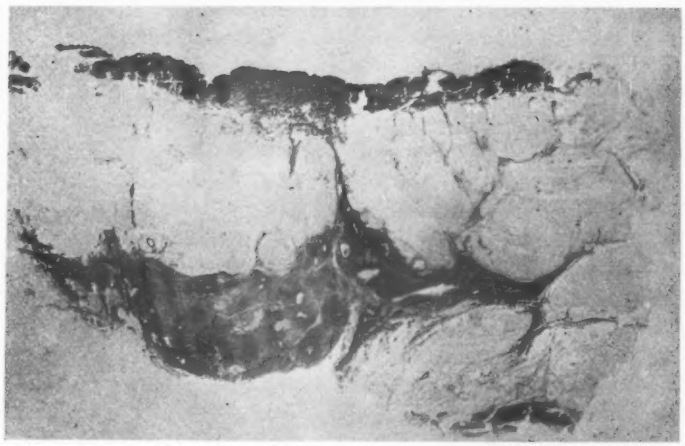

Fig. 9.—(T-71). The dark area is mature fibrous tissue, in which are a few dilated ducts forming cyst-like spaces up to 2 mm. in diameter, lined with one or two layers of epithelium, the walls generally smooth but with an occasional papillary infolding, empty or containing cellular and granular debris. Through the fibrous tissue are gland fields with some alveoli dilated and others filled with epithelial cells, the outline of the gland field indistinct because of the continuity of the connective tissue of the gland field with that of the surrounding stroma. In some areas there is slight to moderate lymphocytic infiltration in and about some of the gland fields.

Non-encapsulated area of chronic cystic mastitis, containing one or more minute cysts, or one or more dilated ducts, or both. There is no evidence of malignancy. It is not a tumor.

mastitis. In one of our cases, almost the entire breast is involved in the process, and simple mastectomy was the most practical procedure.

MANAGEMENT OF LUMPS IN THE BREAST

Since lumps in the breast are so common, it is important to outline some practical method of handling these cases.

Eberts stresses the relation between benign and cancerous lesions of the breast, and says that in any consideration of breast lesions, 99 per cent of one's mental view is blackened out by the thought of cancer.

In an analysis of 1,000 cases of cancer of the breast, by The American Society for the Control of Cancer, the first sign or symptom was as follows:

First Sign of Symptom	*No. of Cases*	*Percentage*
1. Lump in the breast	740	74
2. Pain in the breast	66	6.6
3. Enlargement of the breast	53	5.3
4. Retraction of the nipple	26	2.6
5. Lump in the axilla	18	1.8
6. Bleeding from the nipple	14	1.4
7. Pain in the axilla, arm or shoulder	14	1.4
8. Backache	14	1.4
9. Erosion of the nipple	13	1.3
10. Ulceration of the breast	10	1.0
11. Inflammation of the breast	10	1.0
12. Swelling of the arm	6	0.6
13. Skin nodules	6	0.6
14. Pruritis of the nipple	5	0.5
15. Supraclavicular lump	3	0.3
16. Dimpling of skin of breast	2	0.2
	1,000	100

While the great majority of lumps in the breast are not cancer, we see from the above tabulation that a lump in the breast is the first sign in the great majority of cancers.

As I said in the beginning, when a woman with a lump in her breast consults a physician, the case must be considered just as much of an emergency as though a patient had consulted him with a fresh fracture; and what to do must be determined at once.

There is frequently confusion as to whether or not a lump is benign; whether it is a periductal fibroma or an area of non-encapsulated chronic cystic mastitis, or an area of interstitial fibrosis. All of us meet this difficulty; and McFarland has discussed it at some length. The age of the patient, the nature of the lump, and the condition of the surrounding breast, are important factors in reaching a decision.

(a) *Benign.*

Periductal Fibroma may be left alone, but should be watched; and if it continues to grow, as it generally will, or if it worries the patient with fear of cancer—as it frequently does—the question of re-

moval has to be considered. As systosarcoma phyllodes grows rapidly, and often reaches considerable size; and, as sarcoma has developed on the basis of a few of these growths, this type of fibroma had best be removed. Removal of the tumor is sufficient.

Duct Papilloma must be differentiated: it usually occurs in older women (though our illustrative case was twenty-nine years of age); the nature of the lump and its relation to the nipple, and especially the presence of bloody discharge from the nipple; and the condition of the surrounding breast (often chronic cystic mastitis—but not necessarily), are factors in differentiation. Duct papilloma had better be removed, especially if the discharge from the nipple contains fresh red blood cells, on account of the tendency to malignant change. It is not necessary to remove the entire breast.

Areas of *Non-Encapsulated Chronic Cystic Mastitis, of the Adenomatoid Hyperplasia type,* or the *Minute Cyst* type, occur in older women, frequently with chronic cystic mastitis throughout the breast—usually both breasts. These areas need not be removed, unless they worry the patient with fear of cancer; but it is to be borne in mind that four of our cases of cancer are in breasts the seat of the minute cyst type of chronic cystic mastitis. These areas are quite frequently to be considered as to whether or not they are cancer; so they require discussion from that standpoint.

(b) *Doubtful.*

When the nature of the lump is in doubt, it should be removed, through normal breast tissue, and opened and examined at once—at one side from the operating table. If the gross appearance shows it to be cancer (and the experienced surgeon can tell in upward of 95 per cent of the cases on gross examination), the complete operation is done at once. If the lump is not cancer, and the surrounding breast tissue shows no need for further removal, nothing further is done.

Whenever any lump is to be removed from the breast, all arrangements and preparations must be made beforehand to proceed with the complete operation if the lump proves to be cancer. It is important that an experienced pathologist be in consultation at the operating room, to aid the surgeon, and to divide the responsibility, in determining the nature of the mass removed, and the further procedure.

The confusion regarding the nature of some lumps in the breast has already been noted. Case T-71, noted above, illustrates this point. From the pathologist's report in this case, we see that the lump was not cancer. We have other cases in our material which illustrate this same point; and our experience is not different from that of any other pathologist. In some of our cases, a simple mastectomy was done; in other cases, preoperative irradiation and the complete operation was done. In the absence of some special conditions, the lump should be removed in such cases, examined at once, and the further procedure determined by the nature of the mass removed. Such a procedure saves the woman from the more severe operation of mastectomy or the complete operation if the lesion is benign.

If the lesion is benign, conservatism is the rule.

(c) *Cancer.*

If the lesion is malignant, nothing short of the complete operation is to be done (except where only palliation, or the removal of a fungating ulcerating mass is to be done, or some other determining conditions exist); that is, radicalism is the rule. When one considers the course of metastasis in cancer of the breast,* it is evident that one must go as far as possible in removing possibly invaded tissues, which means removal of the pectoral fascia with its lymphatic plexus, and removal of the lymphatics as far as possible toward the gastric angle, with removal of the pectoral muscles, and cleaning out of the nodes in the axilla and about the clavicle. Consideration of the lymphatic drainage of the breast will aid in determining the probable direction of metastasis, according to the location of the cancer in the breast: outer half, to the axilla; upper—and especially upper inner—portion, to the infra-clavicular, and rarely direct to the supra-clavicular nodes; inner portion, through the chest wall to the nodes along the internal mammary vessels; lower inner portion to the abdomen, through the gastric angle—going to the liver by way of the falciform ligament, when the cancer is in the right breast. One must stress that this indicates only the probable route and direction of the metastases.

Whether or not pre-operative irradiation should be used in the case of single lumps in the breast seems to be a matter of individual preference on the part of the physician. Pfahler's studies do not indicate any advantage in pre-operative irradiation over operation alone in cancer confined to the breast. The claim that

*This phase of the subject has been discussed elsewhere: *Boletin Cientifico de la Liga contra el Cancer, 15,* 105 (May-June), 1940.

irradiation closes the lymphatics and lessens the danger of dissemination of cancer cells during operation, as well as destroys many of the cancer cells, is sound. On the other hand, if the lump proves to be benign, the patient has been submitted to a needless course of irradiation.

Let us repeat: whenever a lump is to be removed from the breast, all arrangements and preparations must be made for doing the complete operation, if the lump proves to be cancer. It should be a hospital requirement that any breast removed, or any lump removed from the breast, shall be examined by a competent pathologist when removed, and proper record kept.

One great advantage of the tumor clinic is that it provides for the pooling of the knowledge, experience, and judgment, of the pathologist, the radiologist, and the surgeon, thus giving the patient the benefit of all of that. The responsibility of deciding does not rest on one man. But, when a lump is to be removed, then it must be understood that the surgeon is the one who decides what further to do, based on what is found in the lump. It does not do to remove the lump, find it carcinoma, and then wait until some days later to do the complete operation.

DISCUSSION

Greater care is necessary in using the terms "adenoma", "adenofibroma", and such terms which mean tumor. Many of the lumps in the breast, reported as adenofibroma, are not tumors, but are Bloodgood's non-encapsulated area of chronic cystic mastitis, or his non-encapsulated area of adenomatoid hyperplasia, or Hertzler's interstitial fibrosis or hyperplasia, or are areas of involuting breast tissue. The term "adenofibroma" has come to be a clinical term for various types of lumps in the breast, without reference to whether or not it is a neoplasm.

From the time of Cooper, cysts have been considered a feature of the condition which we now call chronic cystic mastitis, different authorities considering the cysts of different importance. Virchow noted the lymphocytic infiltration in the interstitial connective tissue, and to him this meant inflammation; hence, the name, interstitial mastitis. He thought the epithelial hyperplasia was secondary. There have always been many names for the condition: the first time I find "Chronic Cystic Mastitis" is by König in 1893. Reclus said cysts in the breast are very common, recognized the condition as bilateral, and said that nodular and cystic disease were one and the same affection. Billroth noted the frequency of cysts in the involuting breast; Schimmelbusch said that the condition he described as cystadenoma is different from the senile or involution cysts of the breasts in older women, in which there is only one or two cysts; and Hertzler puts blue-domed cyst in a separate chapter (Cysts of the Breast) from chronic cystic mastitis.

The question of the association of chronic cystic mastitis and cancer has always been in the forefront: one of Cooper's cases had a cancer of the breast; one of Schimmelbusch's cases developed cancer of the breast, and he cited three cases of cancer in forty-three reported cases of chronic cystic mastitis; König found a co-existing mastitis in some cases of cancer of the breast, and said that papilloma and carcinoma apparently develop in a mastitis breast more frequently than in a healthy breast; Cheatle and Cutler say that 20 per cent of all cancers of the breast begin with chronic cystic mastitis, but do not know how many cases of chronic cystic mastitis develop cancer; Hertzler says that almost one-fourth of cancers of the breast have their origin in areas of chronic cystic mastitis; Eberts says that at the Montreal General Hospital, between 20 and 30 per cent of the whole breast sections from frank carcinoma of the breast show, in association with the cancerous lesion, cystic and papillomatous changes throughout those portions of the breast not involved in the malignant process.

McFarland said that chronic cystic mastitis has no relation to cancer of the breast; and Bloodgood, in the beginning considering chronic cystic mastitis of the parenchymatous hyperplasia type as a precancerous condition, changed to think it had no causal relation to cancer of the breast.

It seems that Bloodgood's first type of chronic cystic mastitis (single or multiple cysts) has been considered as involution cysts; and Schimmelbusch said that involution cysts have nothing to do with his cystadenoma, which is Bloodgood's eighth subtype (second type: chronic cystic mastitis without large cysts), later called "shotty breast" by Bloodgood. This last subtype is the one formerly called senile parenchymatous hypertrophy by Bloodgood, and called parenchymatous hyperplasia by Hertzler. This seems to be the subtype which is more likely to be associated with cancer.

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We have only one specimen showing the large cysts of Bloodgood's first type; and there is no cancer in this breast (T-3, Figure 6). When one examines this section, he is struck by the absence of any of the restlessness of the epithelium which is characteristic of the parenchymatous hyperplasia type of chronic cystic mastitis. It is not that the cysts protect from cancer: in the breast with large cysts, the epithelium is not reacting in the same way as in the parenchymatous hyperplasia type of chronic cystic mastitis. It is like we hear of some people who are too neutral and too apathetic to get into trouble.

So, in considering the question of the relation of chronic cystic mastitis to cancer, one must consider the subtypes of chronic cystic mastitis without large cysts, especially the parenchymatous hyperplasia type (shotty breast). This is definitely the type considered by Hertzler. Of our sixteen cases of cancer of the breast studied by whole organ sections, there was chronic cystic mastitis in seven; all in Bloodgood's second type—without large cysts; three in shotty breasts, and four in breasts with few minute cysts or dilated ducts. A recent case illustrates the point: a thirty-four-year-old woman, with shotty breasts, noted a painless lump in one breast; this lump was considered benign by several consultants, but they advised that it be watched; the lump gradually grew larger, and in four months was removed, and proved to be highly malignant cancer. This experience, together with the opinions held at various times by various men in the past regarding the nature of this type of chronic cystic mastitis, makes us feel that a single lump in the breast of a woman with shotty breasts had best be removed and examined, without delay.

Reclus said there are different lesions in different parts of the breast; and the whole organ section method enables us to study these different lesions in different parts of the breast, in relation to one another, and to the nipple. One of our cases illustrates this point.

T-14. A married white woman, seventy years of age. Two years before coming to the hospital, she discovered a lump the size of a hickory nut in the upper outer quadrant of the left breast. There was no pain. The lump slowly increased in size; and in the past several months she has noticed a tingling sensation in the left breast. One year ago, she consulted a physician, who advised that the lump be removed; but she did not accept his advice. She first noticed dimpling of the skin over the region of the lump two or three months ago. She came to the clinic six weeks ago, where X-ray treatment, followed by operation, was advised. There were no enlarged axillary nodes. She was given a series of X-ray treatments, followed which the mass contracted and retracted. *Clinical Diagnosis:* carcinoma of the left breast. *Operation:* mastectomy, without removal of the pectoral muscles or dissection of the axillary nodes. The patient was discharged from the hospital, eleven days after the operation, in good condition. She was well until thirteen months after the operation, when a palpable node was found in the left axilla: she was given a series of X-ray treatments over the node, with no change in the size of the node. Seventeen months after the finding of the palable node in the left axilla, the right breast was removed: microscopically it showed cancer. Eight months later, she died; and autopsy showed extensive metastases to the thoracic walls and viscera. Section of the left breast is shown in Figures 10 and 11.

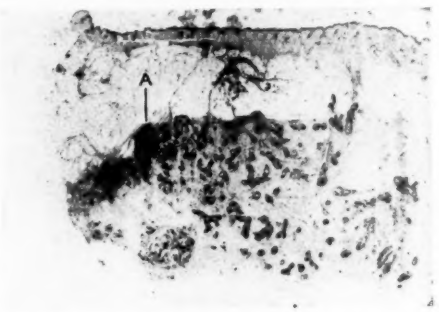

Fig. 10.—(T-14). Toward the left end of the section is a darker staining area (indicated by A), 8 X 22 mm., in which groups of epithelial cells are scattered freely through a fibrous stroma. The nuclei of these epithelial cells are not large, are quite uniform in size, some of them moderately hyperchromatic; there is ome tendency to adenoid arrangement; mitoses are rare. There is quite marked fibrosis, and marked lymphocytic infiltration.

Through the rest of the section the normal gland fields are replaced by dilated ducts, more or less completely filled with granular debris, often more or less completely lined by several rows of epithelial cells. The circular area below, 17 mm. in diameter, is an intracanalicular periductal fibroma, the ducts of which contain the same granular debris as do the ducts throughout the breast.

In an occasional area are a few normal gland fields, one such area being shown in Figure 11.

Diffuse duct carcinoma, of the carcinoma simplex type (Grade II, Sophian), in a breast the seat of chronic cystic mastitis of the parenchymatous hyperplasia (shotty breast) type, under estrogenic influence. Intracanalicular periductal fibroma.

This case is a mine of thought-provoking and valuable information. A lump in the breast; two years delay on the part of the patient; pre-operative irradiation, followed by simple mastectomy, with actively growing cancer cells in the lesion in the removed breast (and a small intracanalicular periductal fibroma deep in the breast); followed by the appearance of a palpable lymph node in the axilla, metastases to the lungs, and death: all extending over a period of five years. Some gland fields in this breast show that the breast was under the influence of an estrogenic substance: whether this be continuation of secretion of estrin by the ovaries of a seventy-year-

Fig. 11.—(T-14). Photomicrograph of an area showing normal gland fields in T-14. Above (crossed by the line) is a normal gland field, the terminal ducts being the alveoli; the loose connective tissue of the gland field showing lymphocytic infiltration. Slightly below and to the right of this gland field is another normal gland field showing the same features. In the lower portion of the figure are dilated ducts filled with granular debris, occupying and extending beyond the entire areas of their gland fields.

old woman, or the substitution of an estrogenic substance by some other organ, is of interest. It has been shown by Salmon that the adrenal cortical hormone has estrogenic action in some animals, and in woman; and it is suggested that, after the cessation of ovarian activity, or removal of the ovaries, estrogenic action is taken over by the adrenal cortex.

In T-59 (Fig. 1), as noted above, we see different conditions in different parts of the breast when studied by the whole organ section method.

SUMMARY

1. Caution is required in the naming of fibro-epithelial tumors. The term "adenofibroma" has come to be a clinical term, without reference to whether or not the lump is a tumor. The *periductal fibroma* is generally benign, though sarcoma has developed in a few of the rapidly growing *cystosarcoma phyllodes type. Duct papilloma* must always be suspected, especially if the discharge from the nipple contains fresh red blood cells.

2. The development of our knowledge of what is known as chronic cystic mastitis is surveyed. In our case T-14 (Figures 10 and 11) we see the lymphocytic infiltration of the connective tissue in and about the gland fields. This is what led Virchow to consider the condition inflammatory—hence, mastitis; and which we now know means that the breast is under estrogenic influence.

3. In studying our specimens of cancer of the breast, using the whole organ section method, we find that some of the cancers are in breasts the seat of the parenchymatous hyperplasia (shotty breast) type of chronic cystic mastitis; and that some of them are in the non-encapsulated area of chronic cystic mastitis, containing one or more minute cysts, or one or more dilated ducts, or both. In none of our cases of cancer are there large cysts in the breast; and in our only specimen of breast with large cysts (T-3, Fig. 6) there is none of the restlessness of the epithelium that we see in sections of the other types of chronic cystic mastitis.

In addition, three of our specimens which were

removed as cancer, and in which whole organ sections do not show any cancer, were this non-encapsulated area of chronic cystic mastitis, with minute cysts.

4. So, it appears that a single lump in the breast of a woman with shotty breasts had better be removed and examined; and the non-encapsulated area of chronic cystic mastitis with minute cysts must be borne in mind, in considering whether or not a lump in the breast is cancer. It is not necessary to remove the breast: the lump is removed, and further procedure determined by the immediate examination of the tissue removed.

One may paraphrase Ebert's statement regarding breast lesions, and say that in any consideration of "chronic cystic mastitis", 99 per cent of one's mental view is blackened out by the thought of blue-domed cyst. The fact is that, in considering the relation of chronic cystic mastitis and cancer, one must consider Bloodgood's second type—without large cysts.

5. Physicians are very frequently consulted for lumps in the breasts of women; and such cases are to be considered as emergency cases: prompt steps must be taken to determine the nature of the lump, and proper treatment must be instituted at once. In general, periductal fibromas do not need to be removed, unless their size, or worry of the patient regarding cancer, make it advisable to remove them; but cystosarcoma phyllodes had better be removed. Duct papilloma should be removed. It is best to remove any single lump developing in the breast of a woman with shotty breasts. The non-encapsulated area of chronic cystic mastitis with minute cysts confuses, and such breasts are not infrequently removed as carcinoma.

In doubtful cases, or whenever a lump is to be removed from the breast, arrangements and preparation must be made to do the complete operation if the lesion proves to be cancer. If the lump is benign, nothing more than the removal of the lump is necessary; and this is not a serious operation for the woman. All hospitals should require that every breast removed, and every lump removed from a breast, be promptly examined by a competent pathologist, and proper record kept.

6. Use of the whole organ section method enables us to study the different conditions in different parts of the breast; ducts beneath the nipple; the gland fields throughout the breast; cancer in its relation to the surrounding breast and extension in the fascial plexus; and the development of various lesions in the breast. Thus, in one breast we find normal gland fields under estrogenic influence; other fields with the alveoli dilated and filled with cellular debris; small cysts; a small intracanalicular periductal fibroma deep in the breast; and a cancer: all in the same section. In another section we find dilated ducts beneath the nipple; small cysts and dilated ducts in the substance of the breast; two nodules of cancer; and the beginning formation of the ingrowths of the alveolar walls and of the capsule or sharp line of cleavage in the early development of intracanalicular periductal fibroma.

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THE MANAGEMENT OF THYROGLOSSAL CYST: REPORT OF TEN CASES.*

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A survey of the 8,412 admissions to the Gill Memorial Eye, Ear and Throat Hospital during the past fifteen years reveals that in ten instances a diagnosis of thyroglossal cyst or fistula was recorded. This number of cases is relatively small in comparison with the numbers which have been reported from some of the larger clinics in this country, as well as abroad; however, we feel that the data which we have accumulated in the study of these cases will prove of importance to those specializing in the head specialties. The diagnosis and surgical management will be stressed.

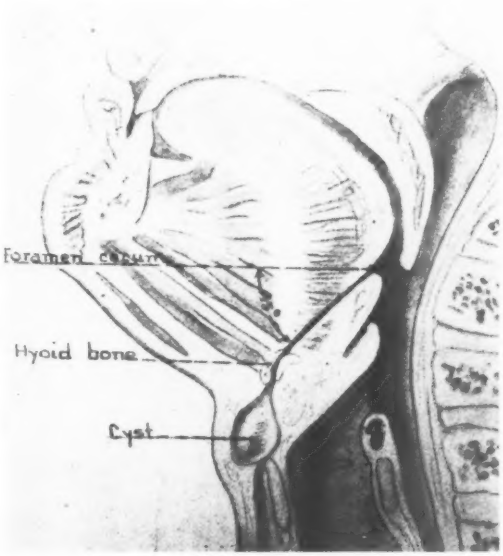

Fig. 1.—Cross section showing the relations of the cysts and fistulas of the thyroglossal tract. (Sistrunk).

The embryology of the thyroid gland will not be reviewed, but to the student of this subject the work of Wenglowski[1] and Morris will prove valuable. The foramen cecum marks the origin of the thyroid gland. The thyroglossal tract is formed by the descent of the thyroid gland in the mid-line of the neck. This tract normally disappears during fetal life; however, when it does not, a cyst or fistula may occur. The writer accepts the views of Clute and Cattell,[2] that all thyroglossal sinuses and fistulae openings on the neck are secondary to pre-existing thyroglossal cysts, and for this reason all of our cases are discussed together. A thyroglossal cyst is a retention cyst lined with epithelial cells which are prone to become inflamed.

Anomalies of the Thyroglossal Tract.—When the tract remains patent, the following anomalies may occur, depending upon the location and extent of the thyroglossal duct and vestiges:

1. Lingual thyroid gland due to failure of thyroid gland to descend into the neck.

2. Myxedematous babies, with no development of thyroid tissue, may have only a cystic mass at the foramen cecum.

*Read before the American Laryngological, Rhinological, and Otological Society, in New York City, June 3, 1940.

3. Where thyroid gland descends partially into the neck, forming a solid tumor of thyroid tissue between the thyroid cartilage and hyoid bone or above the hyoid bone. Before removing this tissue, care should be taken to ascertain if other thyroid tissue is present; otherwise, myxedema may result.

4. The most common anomaly is a thyroglossal cyst, presenting either in the mid-line or at the foramen cecum.

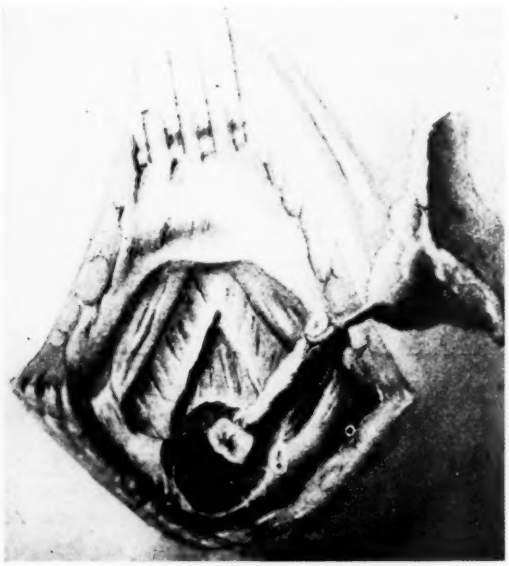

Fig. 2.—The dissection has been completed, and the foramen and the cecum are exposed.

5. Bailey[3] reported two cases, and Neris[7] six cases of true congenital fistula opening into the base of the tongue.

The ten patients in this report have been followed from three to fourteen years.

Age.—The youngest patient in this series was two and one-half years old and the oldest was forty-seven years.

Age Group	No.
1-10 years	3
10-20 years	3
20-30 years	3
30-40 years	0
40-50 years	1

Sex.—In this series of patients, five were male and five were female. Clute and Cattell[2] found thirty-eight females and twenty males in fifty-eight patients, while Klingenstein and Colp[4] found thirty-one male and eleven females in forty-two cases, and Bailey[3] found seventy-two females in one hundred and seventeen cases.

Duration.—In six of our ten cases the cyst or sinus appeared before the age of twenty; in three before the age of thirty, and in one after the age of forty. These findings are in accord with other reports.

The duration of the lesion before operation varied from six weeks to seven years. The youngest childrens' ages were two and one-half and four years, respectively; and in the oldest, age forty-seven, the cyst was at the foramen cecum.

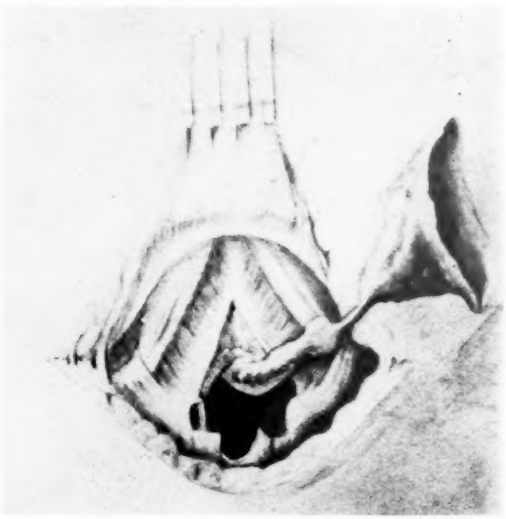

Fig. 3.—The middle segment of the hyoid bone is removed and the thyroglossal tract is dissected. (Sistrunk).

Pathology.—In this group there were eight cysts and two fistulae. The cysts varied in size from small palpable tumors to one which was thirty-five centimeters round. The contents of the cysts were of a gelatinous material containing epithelial cells and cholesterin crystals, except in the cases in which infection was present; then the contents were of a purulent nature.

The microscopic appearance showed the cyst walls to be lined with epithelial cells. Malignancy or osteomyelitis of the hyoid bone was not encountered in any of our cases.

Symptoms.—These lesions rarely produce annoying symptoms, such as choking sensations, difficulty in swallowing or breathing. Frequently, the only complaint is the appearance or the offensive dis-

charge. In our series, only one patient had annoying symptoms; this was in the case of a male adult, aged forty-seven, who complained of difficulty in swallowing and dyspnea at nights. He had a cyst at the foramen cecum the size of a hen's egg. The cyst was removed and the patient has been well after fifteen years.

Diagnosis.—The classical clinical picture of the cyst is that of a soft, fluctuating mass, painless, moving upward with deglutition, connected with the hyoid bone, and occupying a mid-line position. The aspirating needle affords a safe and reliable diagnostic procedure. If the aspirated material contains epithelial cells and cholesterin crystals, one may be certain of the presence of an embryological defect.

Differential Diagnosis.—We must consider:

1. Inflammatory and tuberculous adenitis;
2. Hygroma;
3. Thyroglossal duct;
4. Hemangioma;
5. Lipoma;
6. Dermoid cyst.

(a) Inflammatory adenitis is often bilateral, and numerous glands are involved. They are tender and the focus is usually in sore throats, tonsils and teeth. Tuberculous glands may be more readily confused with cyst and fistula, but they are firm and tender, and other glands are usually involved and often matted together in a group. The discharge from the fistula in broken down glands is purulent, while in thyroglossal cyst or fistula it is clear mucoid or milky and may contain cholesterin crystals.[5]

(b) Cystic hygroma is translucent, occurs most frequently in the supraclavicular area, is often lobulated, and may grow to enormous proportions, extending up into the face in front of the ear.[5]

(c) The thyroglossal duct occurs invariably in the mid-line and moves up on swallowing.

(d) Hemangiomata decrease in size on pressure and have the typical discoloration.

(e) Lipomata are lobulated, soft, and non-fluctuatory.

(f) Dermoid cysts do not move with deglutition. If clinical examination is not satisfactory, aspirate contents and examine microscopically for epithelial cells and cholesterin crystals.

The treatment is strictly surgical. Cautery and sclerosing fluids are mentioned only to be condemned. Any method other than radical surgery results in recurrences.

In all of our cases we have followed the operative technique described by Sistrunk.[6] Briefly, it consists of a complete removal of cyst, the resection of a portion of the hyoid bone, and the "coring" out of the small friable duct with the tissues surrounding it for a distance of about one-eighth of an inch—up to the foramen cecum.

Two of our patients had been operated upon prior to our examination. One, a boy, aged sixteen, had two excision operations to the hyoid bone. The other, a girl, aged twenty-one, had an incision and drainage for a supposedly infected gland on two occasions.

Some surgeons advise injecting methylene blue, radiopaque material, to outline the tract before surgery. We have not found these procedures necessary since adopting the technique of Sistrunk.[6]

Results.—We have had no operative mortality, recurrence, or complication, such as osteomyelitis of hyoid bone, thickening of scar, or paralysis of side of the tongue due to trauma to the hypoglossal nerve, as reported by some authors.

CONCLUSIONS

Ten cases of thyroglossal cyst and sinus are reported. In seven cases the lesion was in the mid-line of the neck between the hyoid bone and thyroid cartilage; in the remaining three at the foramen cecum. The condition is not difficult to diagnose, but the failure on the part of the surgeon to consider a cyst as a possibility is the answer to many errors in diagnosis.

While these cysts and sinuses are relatively rare, they do occur often enough to merit consideration. Any single mid-line tumor or sinus between the hyoid bone and thyroid cartilage which moves with swallowing should suggest the possibility of a thyroglossal cyst. The aspirative needle offers a safe and dependable means of diagnosis. This simple procedure should be emphasized, as it is the most valuable single diagnostic method available. In bronchial and thyroglossal cyst the aspirated material is mucoid and milky in appearance, while in cystic hygroma the material is clear or straw colored. If the microscopic examination reveals epithelial cells and cholesterin, one may be certain of the presence of an embryological defect.

Once the diagnosis is established, the only treatment to be considered as radical surgery, employing the technique described by Sistrunk.[6] Incision and drainage is justifiable in the presence of infection,

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but with the positive understanding radical surgery will be necessary to effect a complete cure.

Regardless of the innocent clinical appearance of a cyst or sinus, the tissue removed should be submitted to a competent pathologist for examination, as the possibility of early malignancy should be considered.

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ANEURYSM OF THE ABDOMINAL AORTA— REPORT OF A CASE OF RUPTURE INTO THE DUODENUM.

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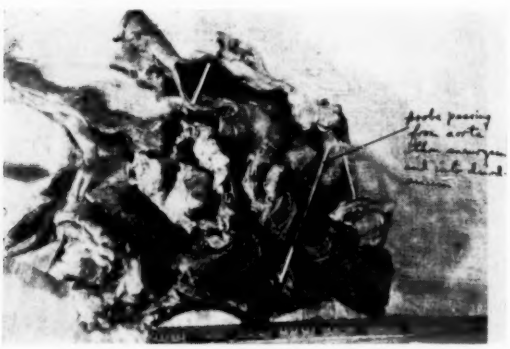
Aneurysm of the abdominal aorta, excluding the dissecting variety, is itself relatively uncommon, but when rupture occurs into the gastro-intestinal tract the condition becomes a rarity. The purpose of this paper is to review briefly the recent literature and to report a case.



Kampmeier[1] in a thorough review of the subject in 1936 found 313 cases of abdominal aneurysm in the literature and added sixty-nine cases from the records of Charity Hospital, New Orleans. Of the total number, he found ten which had ruptured into the gastro-intestinal tract, including one of his own—an aneurysm of the celiac axis rupturing into the stomach.

Lipshutz and Chodoff[2] in 1939 reported two cases of abdominal aneurysm and found forty-one cases in the literature since Kampmeier, bringing the total number of reported aneurysms of the abdominal aorta to 429.

Scully[3] in 1936 reported a case of a sacculated aneurysm on the anterior surface of the aorta on a level with the renal vessels which ruptured through a small pin point opening into the duodenum which was adherent at this point.

Interesting, but not strictly relevant to this paper, is the case reported by Washburn and Wilbur[4] of an abdominal aneurysm pressing upon the duodenum, causing obstructive symptoms, relieved by posterior gastro-enterostomy.

Manson[5] in 1937 described a case of fatal gastro-intestinal hemorrhage caused by rupture of a small saccular dilatation of the aorta into the third portion of the duodenum. This occurred in a seventy-six-year-old man with a markedly atheromatous aorta. The sac was adherent to the duodenum which latter organ showed no evidence of any inflammatory thickening of the wall, such as might be caused by ulcer.

Neely[6] in 1937 reports the case of a fifty-nine-year-old male in whom a fusiform aneurysm at the bifurcation of the aorta perforated posteriorly, giving rise to an enormous retroperitoneal mass, which at its superior margin became densely adherent to the duodenum. Subsequent extension of the hemorrhage broke through into the transverse portion of the duodenum and filled the upper gastro-intestinal tract with blood.

Finally, Roach[7] in 1939 describes the case of a sixty-two-year-old woman, troubled for ten years with epigastric pain, who suffered a sudden fatal hematemesis caused by a dissecting aortic aneurysm which eroded through the third portion of the duodenum. This author quotes another by the name of Ahava, who in 1928 said he had found eighteen cases with rupture into the gastro-intestinal tract in the literature, of which fourteen were into the duodenum. At most, then, there are probably less than twenty-five cases reported to date.

Incidence.—In Kampmeier's[1] series of abdominal aortic aneurysms, 80 per cent were in negroes, and 83 per cent were males. Most occurred in individuals of about middle age, but more than a third of the cases were under thirty-five years and only one was over sixty-five years. The great majority did hard physical work. In a series of sixteen cases collected by Falls[8] at the Cook County Hospital, Chicago, twelve occurred in men, of whom eight were negroes. Three of the women victims were colored.

Etiology.—A great difference of opinion exists in the literature as to etiology. Kampmeier[1] believes that syphilis is "the most frequent specific agent". Minor[9] states that "well over 75 per cent of abdominal aneurysms are due to lues", but admits that in the higher age groups, and especially when associated with hypertension, it is due to atheromatous change. Tuberculosis and trauma are also cited by some as uncommon causes. Of eleven cases in which rupture occurred into the gastro-intestinal tract and where sufficient data is recorded, syphilis was considered to be the cause or to play a questionable role in five cases, whereas arteriosclerosis was taken to be the whole or an important factor in ten. Jump and Leaman[10] state that "syphilis plays a very unimportant part in the etiology of abdominal aneurysm in the older age groups. Arteriosclerosis is the most important factor." It is evident that statistics of individual clinics vary greatly according to the racial and economic groups encountered and the incidence of untreated syphilis.

Symptoms and Signs.—The principal symptom of abdominal aneurysm is pain, usually constant, often throbbing, usually epigastric but sometimes in the back, chest, thighs and knees and usually radiating downward. Other symptoms may be tumor, indigestion, nausea and vomiting, weight loss. There may also be any one of widely variant complaints due to complications of the aneurysm, such as retroperitoneal or peritoneal rupture, pressure on the ureter, pressure on the duodenum, rupture into the pleural cavity through the diaphragm or into the psoas sheath —simulating thoracic or psoas disease—rupture into the vena cava, spinal erosion with pain in the back or legs, dissection with pressure on the iliac arteries—followed by gangrene—or rupture into the gastro-intestinal tract.

The finding of an expansile pulsating abdominal mass with bruit and thrill is pathognomonic and is usually evident. Other findings sometimes present, as listed by Kampmeier,[1] are fullness of the abdomen, occasionally with visible pulsations, tumor in the back, dilated veins over the abdomen, abdominal tenderness and rigidity. Roentgenograms of the spine may show pressure erosion of the vertebrae, sparing the intervertebral discs.

Differential Diagnosis.—This is for the most part exclusion of a legion of other conditions, such as accentuation of the normal aortic pulsation especially in thin people with advanced arteriosclerosis, spinal arthritis, neoplasms of the liver, stomach, pancreas,

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kidney, retroperitoneal lymphoma. If rupture occurs, then the differential diagnosis includes most of the acute abdominal catastrophies.

Prognosis.—Kampmeier[1] states that most of these patients die within six months after the diagnosis is made, death being due usually to retroperitoneal rupture. A few cases have lived after wiring, but none after rupture has occurred.

Pathology.—For the purpose of this paper, aneurysms may be divided into two types: (first) the saccular or fusiform outpouchings of the vessel wall, and (second) the dissecting variety which starts suddenly as a tear in the intima just above the aortic valve ring and progresses rapidly down the aorta almost always between the middle and outer thirds of the media. In the latter type of aneurysm, rupture when it occurs is usually into the pericardium, very, very rarely below the diaphragm, and then it is retroperitoneal. The first type of aneurysm represents a more gradual sequence of events. Here one finds a well formed cavity, usually rough walled because of the laminated blood clots which partially fill it. In the saccular form, which is the more common, there may be only a very small opening where the sac communicates with the aorta. In elderly individuals, the aorta is usually very markedly arteriosclerotic, especially where the aneurysm arises, and it is usually evident that the wall gave way and ballooned out through a degenerated atheromatous plaque. This particular type of aneurysm does not usually attain great size before rupture occurs. Where syphilis is the etiological factor and the age incidence younger, as in Kampmeier's[1] series, the aneurysms are larger. This investigator states that the sac is usually the size of an orange or grapefruit and almost always arises from the upper abdominal aorta, between the renal artery and the diaphragm. Other writers do not make mention of this predominance of the upper abdominal aorta as the site of aneurysm. As stated above, rupture is usually retroperitoneal, but may occur into the peritoneal cavity and more rarely between the leaves of the diaphragm, through the diaphragm into the pleural cavity, or into the mediastinum, into the gastro-intestinal tract, or into the inferior vena cava.

REPORT OF CASE

The patient, a seventy-seven-year-old white male, was admitted to the hospital just after midnight on April 17, 1940. He was said to have been remarkably well and active until about a week before when he complained of "indigestion" and vomited on one occasion, the vomitus being not remarkable. He remained fairly well until the morning before admission when he was suddenly seized by upper abdominal pain and began vomiting large amounts of a black material which was assumed to be blood by those who saw it. This continued at frequent intervals throughout the day and on the night of admission, he passed a very black liquid bowel movement. He became very weak and pale, and a physician was called who advised hospitalization. He had had no gastro-intestinal complaints other than constipation previous to his present illness. There had been no dyspnea, edema, or chest pain. The above history was obtained for the most part from a member of the patient's household, as it was not deemed practical to try to elicit a detailed story from the patient himself.

The physical examination revealed a well developed and nourished elderly white man, looking younger than his stated age, lying flat in bed in no apparent pain. He appeared very pale. The finger tips were slightly cyanotic. Respiration was moderately rapid and deep. He yawned occasionally and complained of feeling weak and sleepy, and asked that he be left alone. The skin was pale, clear, warm and moist. The head, eyes, ears, nose and throat were not remarkable. The chest was clear anteriorly and laterally. The apex impulse of the heart could not be located but the borders were percussed within normal limits. The sounds were rather distant and of poor quality. Rhythm was regular and no murmurs were heard. The blood pressure was 80 systolic, 50 diastolic. The peripheral vessels were sclerotic. The abdominal findings are recorded just as they were written on the clinical record: "Flat, symmetrical, soft, non-tender. Indefinite mass just above and to the right of the umbilicus, presumably in transverse colon. This mass transmits the aortic impulse very forcibly, when palpated. Liver not felt and no masses felt in the epigastrium. Bilateral indirect inguinal hernia evident on coughing." It might be added that on admission, the examiner was struck by the marked pulsation of the mass and tried to conceive of the aorta being the source of the hemorrhage, but dismissed this as preposterous because the bleeding had occurred into the gastro-intestinal tract. Then, too, the abdomen was scaphoid which

made it seem likely that the pulsation was due only to a transmitted aortic thrust. No expansile quality to the pulsation was noted, although this was not specifically looked for. The genitalia and extremities were negative. Rectal examination was omitted and the reflexes were not tested. The temperature was 99.2° F., the pulse 94, and the respirations 26. The clinical impressions were carcinoma of the stomach, carcinoma of the large bowel, rupture of esophageal varices, bleeding peptic ulcer.

It was decided to wait until morning before transfusing and the patient was given 2,000 cc. 5 per cent glucose in normal salt solution, intravenously. One-half hour later, the patient became restless and was given morphine gr. 1/6. Two hours after the infusion was started and when it had almost all entered the vein, he was observed to be breathing with difficulty and shortly afterward went downhill rapidly and died. A great quantity of dark red feces was found in his bed.

Autopsy.—This was performed by Dr. Frank B. Lynch, Jr., who also gave the histologic descriptions.

The chest contained about 200 cc. of almost colorless fluid. The right lung was adherent by firm fibrous adhesions on the posterior and diaphragmatic surfaces. The lower lobe of the right lung was almost solid with blood, but there was no true consolidation. Elsewhere in the dependent portions, the lungs were of a doughy consistency and on sectioning were found to be filled with a frothy, serous fluid. The upper lobes were crepitant and had a shotty feel from what appeared to be multiple healed tubercles.

The heart was normal in size and appearance. There was a very moderate degree of calcification of the aortic valve leaflets. The coronaries were firm and tortuous, but patent. A moderate degree of atherosclerosis was present in the arch of the aorta.

The liver was small and somewhat pale and on the anterior surface there was a definite plaque of peritoneal thickening.

The spleen was normal in size, but quite wrinkled. It appeared quite pale and the pulp was almost devoid of red cells.

The gastro-intestinal tract was markedly distended with blood, in various stages of clotting, throughout its length except for the ileum and rectum. The blood in the colon formed almost a perfect cast. In the second portion of the duodenum, there was a very marked dilatation and the duodenum and upper jejunum seemed to have undergone a partial volvulus which had not, however, caused sufficient constriction to interfere with the circulation. In the duodenum about 2 cm. below the ampulla of Vater, there was a perforation connecting with a saccular aneurysm of the aorta 3 cm. in diameter. This was almost filled with organized laminated blood clots, and it was apparent that the aneurysm had eroded through into the intestine. The opening of this aneurysm, where it arose from the aorta, was 0.5 cm. in diameter. The intimal surface of the aorta was extensively involved with the most advanced degree of arteriosclerosis for a short distance on either side of the site of aneurysm but elsewhere was not seriously affected.

The accompanying photographs, made by Dr. C. B. Owings, will serve to clarify the description.

The kidneys were somewhat smaller and definitely paler than normal.

The head of the pancreas was slightly indurated, but otherwise the organ appeared normal.

The tip of the left adrenal contained an adenoma about 25 mm. in diameter.

The pathological diagnosis was:

Aneurysm of abdominal aorta with perforation into the intestines.

Arteriosclerosis of the aorta and of the coronary vessels. Chronic myocardial degeneration.

Arteriosclerotic nephrosclerosis.

Chronic passive congestion of spleen and low grade acute splenitis.

Chronic passive congestion of liver and chronic biliary cholangitis.

Adenoma of adrenal.

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SULFATHIAZOLE IN INFECTIONS OF THE URINARY TRACT AND IN GENERAL SEPTICEMIA—REPORT OF 50 CASES.*

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The most striking advance in the field of chemotherapeusis has been the evolution and tremendous potentialities of sulfanilamide and its derivatives. Many new avenues have been opened for the use of these drugs.

The limitations of sulfanilamide have been realized and it has become necessary to explore the field further to find other synthesized derivatives of this drug which will act where the parent drug has failed, such as in infections from staphylococcus aureus, streptococcus faecalis and bacillus proteus. In answer to this demand, sulfapyridine was introduced and offered potentialities that sulfanilamide did not possess. It was soon found to produce serious side-effects, however, such as nausea and vomiting, dizziness and cyanosis. More recently sulfathiazole was evolved by Fosbinder and Waters[1] and seems to possess definite advantages over the other sulfonamides. So many articles have appeared recently on sulfathiazole that it seems unnecessary to discuss its use in general infections. This paper will, therefore, be limited to a discussion of its use in urinary and certain bloodstream infections. The toxicity, dosage and relative value in comparison with the other sulfamido preparations will be briefly discussed.

When sulfathiazole was synthesized another sulfanilamide derivative called sulfamethylthiazole was also evolved. The latter drug was found to be of value in treating infections of the bloodstream caused by staphylococcus aureus. Several cases were found to be suffering from peripheral neuritis after it had been administered. It was, therefore, quickly withdrawn from clinical investigation.

Extensive animal experimentation, as well as widespread clinical use, indicated that sulfathiazole possessed definite advantages over sulfanilamide and sulfapyridine. Sulfathiazole was rapidly metabolized in the body, readily absorbed, and quickly excreted in the urine. Chemical analyses of the urine after ingestion of the drug showed that a large proportion of it was excreted in twenty-four hours (80 to 90 per cent). Less of the drug was synthesized in the body than sulfapyridine, leaving a larger amount of the drug available for bacteriostasis.

Spink and Hansen[2] reported 128 cases suffering from pneumonia, staphylococcic sepsis and infections of the urinary tract treated with sulfathiazole. They stated that it showed as little toxicity as sulfanilamide or sulfapyridine, produced less nausea and vomiting and was as valuable as sulfapyridine in treating pneumococcic pneumonia, staphylococci and streptococcus faecalis. Long[3] pointed out that the acute toxicity caused by sulfathiazole was definitely less than that resulting from sulfapyridine.

Clinical study showed the action of the drug in the body to be bacteriostatic rather than bactericidal. Sulfathiazole had a sterilizing effect on the urine and in varying concentrations from 50 to 200 mgm.

Pepper[4] and his associates stated that hematuria was present in twenty-seven of 381 patients taking sulfapyridine. Both drugs may produce urinary calculi by precipitation of their respective crystals, in some instances producing complete blockage of the ureter. Because of the tendency toward intra-tubular precipitation of crystals of sulfathiazole, renal complications may be more serious than those found with sulfapyridine. This complication can usually be obviated by an adequate intake of fluids—2,500-3,000 cc.

*Read by invitation before the Tennessee Valley Post-Graduate Medical Assembly, Knoxville, Tenn., October 10, 1940.

every twenty-four hours. Alyea[11] stated that the concentration of the drug in the urine did not depend on the fluid intake. An individual with evidence of renal damage excretes sulfathiazole very poorly, as the damaged kidney does not have the ability to concentrate the drug.

Long[3] pointed out that if certain principles are observed the sulfonamide derivatives can be used with greater impunity than has hitherto been considered possible. He analyzed the incidence and type of toxic reactions occurring in a group of hospitalized patients, 297 of whom were treated with sulfapyridine and 291 with sulfathiazole. In patients with pneumonia, less cyanosis was found when sulfathiazole was administered than occurred with sulfapyridine. There was also less nausea, vomiting and dizziness, and little evidence of hepatitis. He concluded that the physician should not hesitate to administer these drugs in adequate amounts when indicated, *provided* the patient could be seen at least once a day. Hill[5] stated that the larger amount of sulfathiazole found in the urine compared with sulfanilamide and sulfapyridine, indicated that sulfathiazole may be a more valuable antiseptic than either sulfapyridine or sulfanilamide.

In the past, the prognosis has been very poor in blood-stream infections caused by staphylococcic organisms. Kelliher[6] recently reported a case of septicemia cured with sulfamethylthiazole. Pool and Cook[7] reported fifty cases of various infections treated with sulfathiazole and sulfamethylthiazole. Sixty-five per cent of the patients were cured. Several patients had infections caused by staphylococcus aureus and streptococcus faecalis. Lindsay[8] found sulfathiazole very effective in the treatment of various types of systemic infections caused by staphylococci. Ballenger and McDonald[9] stated that sulfathiazole was the drug of choice in treating staphylococcic and streptococcic faecalis infections. They found no evidence of precipitation of crystals in the kidney or bladder of fifty-nine patients and observed that gonococcic infections resistant to sulfanilamide often responded promptly to sulfathiazole. Average time of cure was twelve days.

When sulfathiazole was placed before the profession for clinical investigation I[10] began using it, and presented the first report on its use in gonorrheal urethritis. During this time, fifty patients with various types of infection of the urinary tract, of which twenty-three were gonorrheal urethritis, were treated. Sulfathiazole was used in five instances after sulfanilamide and sulfapyridine were ineffective. In four of these cases, the infection promptly resolved. In certain instances the response to sulfathiazole has been dramatic. In eighteen other cases, fourteen responded favorably to sulfathiazole. Local antiseptics (protargol ½ per cent) were used concurrently. In three instances, the drug had to be discontinued owing to dermatitis; in two, dizziness, nausea and vomiting was observed, and in the remaining cases it was well tolerated, aside from slight epigastric distress. The average duration of symptoms in the acute infectious group was eleven days. The initial dose in severe infections was 2 grams, with a maintenance dose of 1 gram three times daily.

Owing to its rapid elimination sulfathiazole presents difficulties in maintaining the blood level concentration at an even point. Fortunately it seems unnecessary to do so to attain good results.

Sulfathiazole was used in twenty-eight patients having infection of the upper portion of the urinary tract or in patients with prostatic obstruction. Fifteen had renal infections. In seven, the offending organism was staphylococcus aureus; in three haemolytic streptococcus; and in five, B coli. Twelve responded favorably, the urine becoming sterile in eleven instances. The three remaining patients had sufficient obstruction to produce stasis of urine, thus lowering the effectiveness of the drug. The remaining thirteen had prostatic enlargement with mixed infections. The offending organism was found to be Escherichia coli, the staphylococcic group or the streptococci. The presence of prostatic enlargement made it impossible to sterilize the urinary tract in ten instances. After the prostate was removed, however, sulfathiazole was valuable in clearing up the post-operative infection. The effectiveness of sulfathiazole depends upon the maintenance of adequate dosage plus free drainage of urine. Unless this is done, the response to chemotherapy will be disappointing. Alyea[11] found that moderately sized doses (six tablets daily) were as effective as the larger doses, and the toxicity is appreciably decreased.

In view of the small number of cases of blood-stream infections caused by staphylococcus aureus in which recovery was found, two cases will be briefly discussed.

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Case 1: H. B., a man aged seventy, entered the hospital February 4, 1940. He was in a comatose condition which had been present for twenty-four hours. The blood culture yielded staphylococcus aureus. After consultation an initial dose of 4 grams of sulfathiazole was given, followed by 1 gram every six hours. This medication was continued for four days. The patient's temperature had been running a septic curve prior to the administration of sulfathiazole, but became normal after three days. A culture made five days later yielded negative results, as did one three days subsequently. An intravenous pyelogram showed calculous pyelonephrosis of the right kidney. The left kidney was normal. A nephrectomy was done under spinal anesthesia and a functionless kidney removed. Following this procedure the patient quickly recovered and was discharged cured two weeks later. The blood level of sulfathiazole was checked on alternate days during administration of the drug and averaged 5 mgm. per 100 cc. of blood. The patient showed no evidence of toxicity until the end of the fourth day when nausea appeared and food was refused. The drug was then discontinued and the nausea disappeared.

Case 2: This patient had a non-haemolytic streptococcus bloodstream infection in which sulfathiazole was effectively used. Mr. C. S. W. was admitted to the hospital March, 1940, complaining of severe pain over the kidney area, nausea and vomiting. The attack was initiated by a chill, followed by a sharp rise in temperature. The pain in the kidney area became very acute. The patient had a similar attack four weeks before and was confined to his bed for two weeks. A blood and urine culture made by Dr. Lindsay yielded non-haemolytic streptococci. The patient was placed on sulfathiazole and given an initial dose of 4 grams followed by 1 gram every six hours. Within twenty-four hours, marked remission of the fever occurred and on the second day his temperature became normal. The drug was discontinued after three days. An intravenous pyelogram made subsequent to this attack showed evidence of a long standing atrophic pyelonephritis.

DOSAGE

Because of rapid elimination of sulfathiazole it should be given at frequent intervals, insuring a more constant blood level concentration. In severe fulminating infections an initial dose of 2 to 4 grams may be given. One gram of the drug is then given three times daily. Carey[12] states that the initial oral dose of sulfapyridine and sulfathiazole is ¼ grain per pound (maximum 45 grains). A maintenance dose of 1 to 1½ grains per pound may be given for twenty-four hours in four to six doses. For intravenous administration, sodium sulfathiazole is given in a 5 per cent solution in sterile distilled water. The initial dose is 1.25 cc. per pound, maximum 100 cc. This amount may be repeated at twelve-hour intervals. For rectal administration one may use a 5 per cent solution of the sodium salt in distilled water. Two to 3 cc. per pound is given each twenty-four hours—divided in four to six doses.

Prentiss and Flocks[13] found definite liver injury in 49.5 per cent of 111 patients taking sulfanilamide; only 9 per cent, however, showed jaundice. The remainder had positive van den Bergh reaction.

TOXICITY

It is generally agreed that sulfathiazole exhibits no more toxicity than do the other sulfamido preparations. Less disturbance of the gastrointestinal tract and less cyanosis is found. It must be remembered, however, that sulfapyridine and sulfathiazole are capable of producing severe damage to the liver, kidneys, spleen and hemopoietic system. These drugs should, therefore, be given in smaller amounts than earlier reports suggested. I know of two instances in which the patient died as the result of the administration of the sulfamido preparations, degeneration of the kidney and liver being found.

Certain principles should always be observed in their administration. These are: an adequate intake of fluids (3,000-4,000 daily), small dosage (30 to 45 gr.), daily observation for evidence of toxicity, frequent examination of the blood and urine, avoidance of sunlight, and hospitalization of the patient if possible. The drug should be withdrawn if fever, dermatitis, hematuria, dizziness, severe nausea, vomiting, cyanosis, injection of the sclera or conjunctiva is noted. Generally speaking, the prompt withdrawal of the drug will cause these unfavorable side-effects to disappear. The simultaneous administration of an alkali is unnecessary with sulfathiazole.

CONCLUSIONS

One must always consider the possibility of damage to the kidneys, liver and hemopoietic system.

Before prescribing the sulfamido preparations, and

until more is learned of their potential power to produce permanent injury, they should be used with great care in mild infections, or in patients with partial impairment of the liver.

The amount of fluid must be adequate (3,000 cc. daily) but has little effect on the blood level concentration of the drug. Smaller doses are suggested, thereby reducing the possibility of toxicity, yet at the same time as effectively controlling the infection.

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LITHOPEDION OF SEVEN YEARS DURATION FOLLOWED BY HYDATIFORM MOLE—
Case Report.*

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The study and observation of the changes in the life history of a lithopedion are very interesting because of the infrequency of its occurrence and on account of the difficulty in diagnosis. In fact, very few cases have been found in literature in which a correct diagnosis was made before the operation.

The study of this case was made soon after all movement of the fetus ceased. There was no disturbance following the death of the child so far as the mother was concerned.

The soft parts of the fetus were probably absorbed and the skeleton of the child slowly moved from its original position downward toward the symphysis. How long the integrity of the fetal body was preserved, we do not know.

Our observation of the evolution of this lithopedion from its beginning to 1938 has been followed by means of X-ray. The gradual change from the size of practically a full term child to that of a large grapefruit is demonstrated. In the literature on lithopedion no one has yet been able to tell at what stage of pregnancy the formation of the lithopedion may take place.

On July 12, 1933, Mrs. A.D., white, female, aged thirty-eight, came to the office, complaining of nausea, occasional vomiting, and amenorrhea of three months duration. She also complained of low back pain, dull pain in the right lower quadrant, and a moderate leukorrhea.

Past History. The patient did not recall any previous illness of significance. She denied ever having had any of the usual childhood diseases. She was married at the age of nineteen and had one child, aged fifteen, and one miscarriage three years later. She never had any gastro-intestinal disturbances.

Her social history was negative. Periods began at the age of fourteen and were regular at twenty-eight day intervals, lasting four days with moderate bleeding. She had no dysmenorrhea, metrorrhagia or menorrhagia of any degree. About three years previously, she felt rather persistent low back pain accompanied by profuse leukorrhea between her periods.

She consulted a physician at that time who ad-

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*Presented before the East Flatbush Medical Society.

vised operative intervention with the hope of relieving the symptoms. Six months later she was operated for laceration of cervix and removal of small fibroid of anterior cervical lip. Her recovery was uneventful and the symptoms disappeared.

Physical Examination. Patient was well developed; a well nourished female. Her eyes, ears, nose and throat were essentially negative, except that the tonsils were definitely the site of a chronic inflammatory process. Her heart and lungs were negative. Abdomen was moderately protuberant and no palpable masses could be felt, but there was a sensation of definite discomfort, approaching pain on deep palpation of the lower right quadrant.

There was no rebound phenomenon found and there was no dullness in the flanks. Extremities were negative.

Gynecologic examination revealed a relaxed pelvic floor with moderate amount of white mucoid discharge. Uterus was perceptibly enlarged to about two to three months pregnancy and the cervix was soft. Left adnexa was negative. The right ovary was definitely enlarged and tender. There seemed to be a small tender mass in the right fornix. There was no contact sensitivity or pain on movement of the cervix. The possibility of an ectopic pregnancy was considered but was dismissed as unlikely.

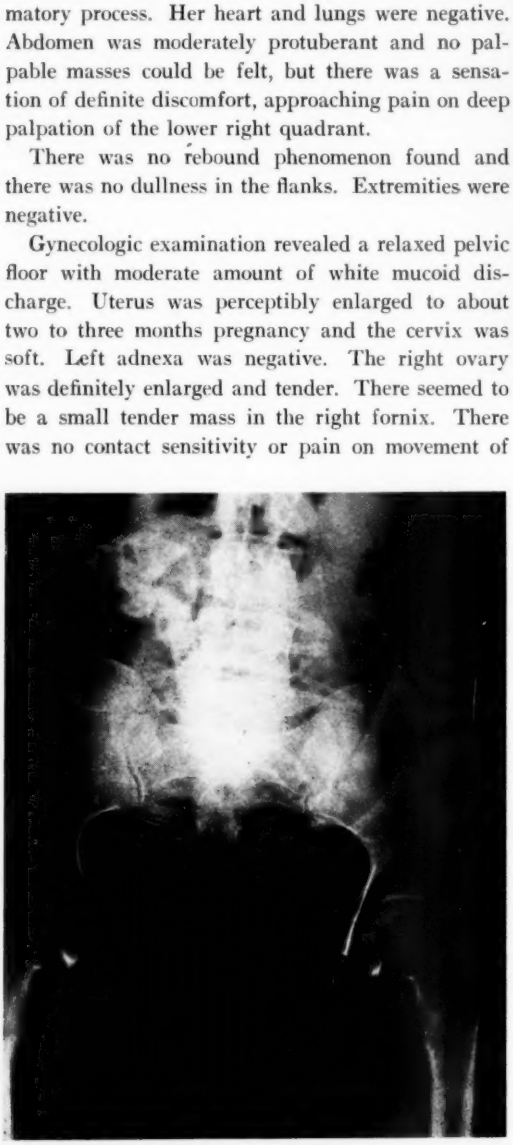

Fig. 1.—X-ray taken 1934. Fetus in the transverse position.

Fig. 2.—X-ray taken 1935. Fetus in the transverse position, (slightly lower).

A tentative diagnosis of uterine pregnancy was made which was confirmed by a positive A.Z. test.

Subsequent course consisted of periodic prenatal visits by the patient. About two months after the first visit she claimed she felt fetal movement. Fetal heart could be heard. Patient had no complaints, gained moderately in weight and there was a definite progressive abdominal enlargement.

Laboratory findings during the periodic visits: Blood and urine were normal and Wassermann was negative.

Suddenly, on February 24, 1934, the patient arose one morning to find moderate vaginal bleeding. Previous to this apparently her pregnancy had been proceeding normally and she had been able to do her regular housework.

Later in the day, while attending to her housework, she was seized with acute abdominal pain and fainted. Upon recovering consciousness, she crawled to the telephone to call the doctor.

Upon our arrival, we found the patient in mild shock, pale and extremely restless. There was

marked abdominal distention and continuous vomiting. All symptoms pointed to intra-abdominal hemorrhage. Temperature 101 F.; pulse 130; respiration 24. It was thought best not to make too thorough an examination at this time, for fear of producing further hemorrhage and with the thought in mind that subsequent surgical intervention might be necessary. The patient refused to be hospitalized and treatments were instituted at once by giving intravenous glucose 5 per cent with saline and one-fourth grain of morphine. Absolute rest and quiet were ordered under the supervision of day and night nurses for further development.

A blood examination at that time showed a red blood cell count of 2,700,000, hemoglobin of fifty-five, white count 17,000, polys 80. Urine was negative except for many red cells as the result of vaginal bleeding.

After a five weeks stay in bed the patient's condition had greatly improved. Recovery followed after two direct blood transfusions of 300 cc. each at four day intervals to compensate for the intra-abdominal hemorrhage which had occurred. Fetal motion disappeared and fetal heart sound could not be heard.

Fig. 3.—X-ray taken 1937. Fetus moved from its original position, further into the pelvis.

Fig. 4.—X-ray taken 1938. Skeleton of the fetus down in the pelvis.

Abdomen was moderately tender but not distended. Uterus was felt about two inches above the symphysis. This was considered significant at this stage of pregnancy.

X-ray taken the beginning of April, 1934, showed a well developed fetus in the transverse position.

A marked improvement of the patient's condition occurred after this period and any subsequent examinations and studies were refused by the patient.

After great difficulty and persistent persuasion, we finally succeeded in having another X-ray taken in 1935. There was no great material change in the picture. The patient's condition was excellent, periods became regular and there were no gastro-intestinal disturbances. A rather hard, fixed mass, the size of about a six months pregnancy was felt in the lower right quadrant. The uterus was of normal size.

In 1936, the condition of the patient was very good. X-rays revealed the fetus had moved downward from its original position into the pelvis. The mass in the right lower quadrant had diminished a great deal in size. The uterus was of normal size.

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Periods were regular. No doubt at this period the soft parts of the fetus were absorbed.

On March 15, 1938, we saw, in consultation, the same patient who was now removed to the hospital. her history revealed a five months pregnancy with spotting at frequent intervals of dark unclotted blood. Without warning, upon arising from bed, she noticed a considerable discharge coming from the vagina, accompanied by abdominal and lumbar pain. She never felt fetal motion and the fetal heart sound could not be heard. An unusual feature was the extreme apprehension of the patient and, while at this time there was no perceptible evidence of anemia or shock, she gave the impression of being very ill. The abdomen was prominent and resembled a full term pregnancy in size.

While we made the examination, the patient complained of severe abdominal cramps and began to bleed profusely. The bleeding subsided temporarily

Fig. 5.—Macroscopic specimen of hydatiform mole.

Fig. 6.—Microscopic slide of hydatiform mole.

on packing the vagina and on administering one-fourth grain of morphine. Eight hours later the bleeding reappeared and, upon removing the packing, there was a spontaneous expulsion of a large mass from the uterus, consisting of grape-like masses of transparent cysts of various sizes which contained a clear viscid fluid. This mass presented the characteristic appearance of an hydatiform mole. The uterine cavity was cleaned out with a sponge. No curettage was done. The patient made an uneventful recovery and left the hospital in good condition. A quantitative test for gonadotropic substance at that time was negative. There was no alteration in the position or consistency of the lithopedion after the X-ray examination.

Six months after the expulsion of the mole, monthly quantitative determination of gonadotropic substance in the urine has been persistently negative.

It was impossible to continue to study this case since all efforts to locate the patient have failed.

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SULFANILAMIDE THERAPY IN MADURA FOOT.

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Madura foot, or mycetoma, is a chronic fungus infection which attacks the feet. Although it is found chiefly in India and the tropical regions of our Western hemisphere, it has been reported sporadically in all parts of the world. In 1932, Brindley and Howell reported twenty-eight cases of madura foot in the United States (*Southern Medical Journal*, Vol. XXV, No. 10, p. 1022).

Curiously, mycetoma usually confines itself to the feet, rarely attacking any other structure. As one would expect of a fungus growth, its long chronic course runs from ten to twenty years. All this time it burrows through the structures of the foot, damaging muscle and bone alike. It is recognized clinically by a greatly enlarged foot, honey-combed with communicating discharging sinuses. The discharge often contains granules resembling fish-roe. The skin appears mottled from irregular pigmentation and cicatrization. In spite of moderate local pain, the patient often uses the deformed foot for walking. Unlike other infections, there is complete absence of systemic effect. The condition has never been known to recover spontaneously, surgical amputation being the only known cure.

The fungus causing mycetoma is closely related to the actinomyces and is known as actinomyces madura.

CASE REPORT

Fifteen years ago a colored school teacher, now fifty-five years old, used a pair of shoes that had been worn by a friend in Mississippi. (This is the only suggested source of infection.) About two weeks later she developed a severe aching pain in the left great toe which was constant day and night. The dorsal part of the toe began to swell and soon broke down and began to drain. Ulcers appeared around the ankle, and draining sinuses developed on the side and plantar surface of the foot. She states that the

Draining sinuses on plantar surface of foot February, 1937.

Showing irregular pigmentation February, 1937.

drainage from these sinuses sometimes contained "little yellow balls". During the next seven years this colored woman visited numerous doctors, clinics, and hospitals, and, in spite of a negative Wassermann, was often treated for syphilis. In August, 1932, one toe, which had almost sloughed off, was amputated. A few months later when the disease had continued to progress, the left leg was amputated just below the knee. Unfortunately this specimen was not preserved, but was reported grossly to show "arteritis." Tragically for the patient, shortly after the amputation, the disease appeared in the other foot and ran the same course as in the original infection. In 1937, she was seen by Dr. George Lawson, of Roanoke, who made a diagnosis of Madura foot. However, in our laboratory at the Jefferson Hospital, Dr. K. T. Redfield was not able to isolate the organism on Sebouraud's medium. On direct smear, the morphology of the organism resembled actinomyces madura.

Through the courtesy of Dr. Lawson, I was able to try various forms of local treatment, all of which seemed to aggravate the condition. The patient had repeatedly refused surgical removal of the remaining foot. At this time the foot was enlarged and markedly deformed. It had a mottled appearance from pigmented areas mingled with scarred areas extending eight to ten inches above the ankle. There were small draining sinuses on the sides and plantar surface of the foot. Granules were not noticed in the discharge at the time. They could, however, be obtained by irrigating a sinus with normal saline. There were large superficial ulcers on both sides of the foot, and X-rays showed marked rarefaction of the bony structure.

After a year of unsuccessful local treatment, the foot was definitely worse. At this time there was a report by Miller and Fell of two cases of actinomycosis cured by sulfanilamide (Sulfanilamide Therapy in Actinomyces, *J.A.M.A.*, Vol. 112, February 25, 1939, p. 731). One of the cases they had treated, and the other was a summary of a case reported by Oliver Walker, of Liverpool (Sulfanilamide in the Treatment of Actinomycosis, *Lancet*, p. 1219, May 28, 1938). Since the causative organisms of mycetoma and actinomycosis are quite similar, this patient was started on eighty grains of sulfanilamide daily for four days, then sixty grains daily for four months. This she tolerated remarkably well. After the first four days the discharge had subsided and the pain had ceased. By the end of the third month healing was complete except for deformity. She was able to walk on the foot by wrapping it in several thicknesses of cloth.

Twice during the past eight months a small ulcer appeared on the foot which cleared up promptly with resumption of sulfanilamide. Apparently the lesions were reinfections, which is quite likely from the unsanitary little shanty where she lives. No other treatment was used with the sulfanilamide.

The significant fact is that a case of chronic draining sinuses of the feet, of fifteen years duration without a remission, has now been completely healed for eight months by sulfanilamide therapy. This case has had the clinical course, and physical characteristics of maduromycosis.

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HABIT.*

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It does not require much reflection for us to realize that we are, to a great extent, the slaves of habit, and the realization of this should give us more concern as to their formation. The word "habit" is derived from the Latin word "habitus-habere" meaning "to have" and is medically defined as "a practice or custom established by frequent repetition of the same act". From a physiological point-of-view it is a regular or systematized interaction between mind and body which results in a frequent repetition of a set of nervous impulses and muscular responses. Still another practical definition of habit is that it is a customary way of behaving, either natural, or, if unnatural, the result of frequent repetition. The word habit carries with it no

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reference to good or bad. However, in this discussion reference is made to good and bad habits in the generally accepted sense.

From a generic and from a mechanistic viewpoint we cannot consider habits inseparable from reflexes and instincts. If we adhere closely to the behaviorist school of psychology or the physiologic psychologists, such as Watson, Morgan, Pavloff and others, then the conditioned and chained reflexes control and explain human behavior on purely a mechanical basis. Without doubt, on a developmental basis, there is a great deal of truth in the mechanistic teachings; but the cerebral cortex as a highly sensitized conditioner of our behavior defies logical explanation. It is a well-established fact, however, that primitive responses to physical and chemical stimuli are reflexive and we do not associate habit with such responses until the nervous system becomes more integrated, and then these definite reflex response patterns are called habits.

Without going into the details of the development of reflex activity, it can be said that as the nervous system develops, reflexes gradually become more complex, in that they become compounded, co-ordinated, conditioned, chained and inhibited. Sherrington states that the unit integration is the reflex; and Pavloff considers all involuntary activities as hereditary and describes them as unconditioned reflexes. Conditioned reflexes employ the same structure as the unconditioned reflexes but are dependent on the integrity of the cerebral centers. Thus, the cortex merely acts as a conditioner of already existing, simple, compounded, inhibitory, coordinated and chained reflexes, and directs energy in association with hereditary, constitutional and environmental factors toward purposive behavior. Thus behavior is, to a certain extent, conditioned by heredity and environment, but, on the other hand, it can be determined by training and experience through the establishment of habit-patterns by repeated reflex responses.

Closely allied to habits are "instincts" which are defined as fixed constitutional habits, which are not subject to conditioning. Instincts are inherited tendencies to action; instincts may be thought of as accumulations or crystalizations within the germ cell of positive forces through ancestral acquisitions. A simple conception would be, perhaps, to consider reflexes as constitutional; instincts as inherited, and habits as acquired. It is impossible to determine where reflex action merges into instinctive behavior. Thus we see that a consideration of habit involves reflexes and instincts and the discussion of instincts may become highly controversial. My purpose is to freshen our minds regarding habits, and to emphasize their importance, and to differentiate the good and the bad. Repetition is a basic factor in all habit-action.

The word habit is associated with or closely allied to such terms as second nature, addiction, commonplace, behavior, customs, traditions, compulsions, obsessions, inveterate, instinctive, every-day, stereotype, routine, permanent, ingrained, fixed, pattern, obstinate, prejudiced, old school, conventional, familiar, and a host of others, so that we can readily see that habits are developed by groups as by individuals. If there can be any line of distinction drawn between mental and physical habits, it would be readily seen that we need concern ourselves little about physical habits, but that we should realize that most of the difficulty is centered around faulty mental habits.

Infancy is, of course, the proper time for the development of wholesome mental habits. The longer the infancy of any animal the greater the opportunity for the formation of habits. The older the individual the more difficult it is to form a new habit or to reform an old habit. When one responds to the impulse to perform an act, the next time the same impulse is experienced the body responds a little quicker, and these paths of motor discharge pave the foundation of a new habit. Such gross habits as drug and alcoholic addiction generally have their origin in early life. The individual as a child probably was not taught to develop the habit of facing reality. The desire to escape unpleasant reality is perhaps inherent in all of us, and there are many rational and irrational mechanisms for avoiding it. While some of us rationalize normally, others do so abnormally; while some escape reality by establishing good habits, others do so by developing bad habits. Smoking or chewing tobacco, taking a drink of whiskey for the first time, is usually distasteful to the individual. We assiduously cultivate the habit because of tradition and custom; indeed, seldom is the initial indulgence in these agents conducive to establishing the habit, for often the physiologic disturbance that they cause would logically bar them completely from further use. It is such habits as these that are determined

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or perhaps conditioned by society. Drug addiction, such as morphine, is, on the other hand, generally speaking, anti-social, and the habit is established because of well-known psychological and physiological factors. It is by chance that many bad habits are established and when once that habit becomes fixed the individual may control it or the habit controls the individual. Once in the control of a bad habit, it is logical that that person inevitably has difficulty or becomes pathological.

In training children we pay a great deal of attention to their physical habits and feel quite proud that we have established good habits as to their intake of food, the emptying of the bladder and bowels, sleeping, etc. However, hypochondriasis is frequently traced to over-solicitousness of the parents in directing the attention of the child to the alimentary tract. In many ways we are handicapped or helped by habits of attention.

It is difficult for many of us to concentrate, to focus our attention or direct our energies toward an objective because we never were taught or encouraged to establish the proper habits or the art of thinking. In communities which engage in frequent emotional debauches at funerals and protracted religious meetings, etc., there is a likelihood of an otherwise normal person becoming emotionally unstable. Certainly emotions can be conditioned to a great degree.

Mental habits pertaining to cerebration, such as reason, thinking, judgment, etc., can be encouraged during the habit-forming period of our lives, but certain limitations as to an individual's capacity have to be recognized and conditioned accordingly, for one must remember that every person's capacity is influenced by heredity and environment, but nevertheless can be regulated and modified by training, experience and by the establishment of habit patterns. We might mention two pathological aspects of habits, compulsion and obsession, one of acting and the other of thinking. The morbid condition often develops innocently enough, such as a person touching every lamp post he passes or picking up pins or washing hands; when he is prompted by an impulse which he cannot justify or control, then the action or idea ceases to be a habit and becomes a compulsion or obsession. In many ways compulsion and obsession are similar to deeply ingrained habits.

Regardless of theoretical speculation as to the extent of habits in our behavior and mental processes, it seems obvious that both are influenced to a great extent by them. The difficult job is to disrupt bad and establish good habits. Some of the apparent good results we obtain in institutional practice are superficial because only indulgence is elminated and routine habits of eating, sleeping and eliminating are re-established. Sad to relate is the fact that this type of apparent improvement physically little more than scratches the surface in so far as the mental habits are concerned. One must reckon back over many years and the process of correction involves re-education.

Habit is the basis of education, some one has said, and it is necessary for us to be trained and make automatic and habitual as early as possible as many useful actions as possible. The more of the details of everyday life we can delegate to the custody of automatism, the more the mental processes will be free for their proper work. The consideration of the establishment of habits takes us back to early training, guidance, teaching, etc., and cannot be discussed at this time. However, there are a few factors regarding the acquisition of new habits and the breaking away from old and bad habits that might be worthwhile reviewing. Resolutions and initial action to re-inforce the right motive is the first effort toward establishing or reforming a habit. Every time we act in a positive way to break a bad habit we fortify ourselves against recurrence of it. Continuity of training is the best way of making the nervous system act right. Therefore, there can be no exceptions in reforming habits of living; exceptions or lapses are like dropping a ball of twine which one is carefully wrapping up. The question of tapering off in such habits as drinking comes under this consideration. A desire will soon die if it is never fed. In the words of Dr. Bosnsen: "He who every day makes a fresh resolve is like one who, arriving at the edge of a ditch he is to leap, forever stops and returns for a fresh start. Without unbroken advance there is no such thing as accumulation of positive forces." It is not the wish, the desire or resolution regarding a habit that brings about a change but the active motor response, or the putting our words and thoughts into action by power of will and determination to act.

The proverbial road to Hell is said to be paved with good intentions or resolutions. A resolution that is allowed to dissolve because of lack of action, inhibits

its future formation. Attention wanders if no effort is made to focus it. Emotions become distorted if not expressed properly, either directly or indirectly. Daily exercise in concentrated attention, energetic volition and self-denial in unnecessary things insures us in the best possible way the controlling of our habits. Such well-known characters in literature as Rip Van Winkle, who "Didn't count this time"; Micawber, who waited for something to "Turn up", and the Village Blacksmith who diligently applied his energies and many others, illustrate how habits of living mould character and personality.

Perhaps it is true that there are many who in spite of excellent training succumb to bad habits of living, and then there are others who overcome many handicaps of early training—yet when proper habits integrate and improper ones disintegrate, it may be assumed that a pathological habit could be modified, even if the individual is poorly endowed, by guidance and reasonable evaluation of the hereditary, constitutional and environmental factors, so that a modified, but reasonably adequate adjustment level could be attained. The social factor as to habits enters here because it is unusual for society to accept an individual adjustment level.

Behavior is conditioned by personal integrity, which in turn is subject to development or disorganization by early established habits.

Life is a complicated process and the living of it even more so, yet, on the other hand, we might well ask ourselves why? So-called civilization, a product of man's development, also has become complicated and confusing. The average person is dumb-founded by the complexities of our government, scientific and engineering projects, yet on analysis we find that these complex creations of men are based on principles which are relatively easy to grasp. Might not this also be true of life and the living of it—that many things become complex, conflicting and confusing for us because we lose sight of the simple principles upon which they are based, and in our efforts to solve the complex, overlook a simple solution?

The nerve fibers have many tracts and the cells many recesses, perhaps enough to store from heredity, to acquire through training and the establishment of habit patterns, and from storage and acquisition to create.

FOUR PROBLEMS CONCERNING ADENOMATOUS GOITER.*

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The reason for bringing this subject to our attention again is that there is a great tendency to leave these goiters alone until late in life, which is a bad time for surgery.

There are four problems in adenomatous goiter which make it more serious than any other type of goiter, particularly when operation is put off until a late date, and all these causes could be avoided if these people were taken care of early, namely:

1. Adenomatous goiter is the only type of goiter, so far as we know, that ever becomes malignant.

2. It is the only type of goiter we ever have to deal with substernally which produces pressure on the deep vessels and other complications such as dyspnea, etc., and which frequently on removal is followed by a very serious complication, collapse of the trachea, which, unless trachectomy is done immediately, will be followed by the death of the patient.

3. It is the only type of goiter, practically speaking, where the recurrent laryngeal nerve is injured on removal. It is true that it can be injured in removing exophthalmic goiter, but the danger of injury is not nearly so likely as it is in the adenomatous type, because, when this type of goiter is left, the goiter grows, the nerve is raised up along with the growth of the goiter and the anatomical relation to the nerve has been distorted. This is a very serious complication. This danger is involved chiefly when the gland is raised up, and the nerve, being right on the gland, is easily clamped without ever knowing it. This is the reason why it is far better to do these goiters under local. Then you know instantly when the recurrent laryngeal nerve is injured.

4. The fourth reason which makes these goiters more complicated is that the majority of them give very little trouble in regard to hyperthyroidism until around middle age, or at the menopause, and at this stage the gland has probably grown to be very good

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sized. The patient is certainly not a good risk at this age because of general debility, age and cardiovascular complications which arise about this time. Most of these reasons mentioned which make the operative procedure of adenomatous goiter more difficult could be avoided if the goiter were taken care of early—before it became so large.

I thought these complications would be of more interest to us than anything else because they are certainly the reasons why this is the most serious type, and there is no question but that the mortality rate following operation for adenomatous goiter is due to some of these causes. Surgically speaking, adenomatous goiter is practically the only type in which there is any mortality rate from operative procedure. Mortality rate is usually due to age and complications which have arisen and could be lowered if these cases had been operated before they got to this stage.

I would like to digress here just a moment. Adenomatous goiter is just as common in this part of the country as it is anywhere else. It is usually found in women bearing children, although, of course, it does occur in women who have not borne children. The history of this type of goiter always dates back to the beginning of menstruation when a small adenoma developed. The late H. S. Plummer who did so much work in goiter, particularly adenomatous goiter, has frequently mentioned this particular fact about these patients' goiters developing around menopause, bringing out the point that no doubt this type is chiefly due to endocrine disturbance, as all these goiters flare up more around menopause when other changes in endocrinology have taken place. He stressed this point particularly and also stressed the fact that the iodine situation in these goiters is not nearly so important as endocrinology. The basic point is entirely different from exophthalmic goiter. That is why adenomatous goiter is about as frequent in one community as in another and not definitely associated with any one place in regard to iodine. I do not want to be misunderstood. There may be some definite association with the iodine situation but certainly not as much as concerns exophthalmic goiter.

I hope, if this discussion does not bring out but one thing, it will remind us that adenomatous goiter is certainly a frequent type of condition and that it is the most serious type of goiter and practically the only type with any mortality rate of any importance. If we can only put over this point, I think we have accomplished something.

THE PEDIATRICIAN'S ROLE IN MENTAL HYGIENE.*

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The idea that the pediatrician has an important role to play in mental hygiene is of recent origin. The pediatrician trained twenty to twenty-five years ago devoted most of his time to learning the diseases of childhood and the various modifications of milk and sugars used in infant feeding. Preventive measures were not stressed to near the extent they are today.[1] With the increasing knowledge of vitamins and the development of toxoids, vaccines, etc., the concept of preventive pediatrics has grown steadily. Prevention of disease has become a large part of the pediatrician's work. The pediatrician is tending more and more to become the director of growth and development of the child. Knowledge acquired twenty-five years ago still has its value in practice, but actually is only the foundation of modern pediatrics. Through the application of new methods and discoveries the efficiency of the pediatrician has grown and his services are becoming yearly more valuable to his patients. The next logical step, which bids fair to accelerate this trend, is the assumption by the pediatrician of the role of mental hygienist.

In 1935 the National Committee for Mental Hygiene sponsored a conference of pediatricians and psychiatrists to discuss psychiatric education. The theme of this conference was the training of the pediatrician and general practitioner to deal with the child as a human being and not as just a case of some disease. The inspiration for this conference apparently came from the recognition that most personality difficulties and many mental illnesses have

*This paper was originally read before the Mental Hygiene Section of the Virginia Conference of Social Work, April, 1940. After a few changes it was read before the Richmond Academy of Medicine, October, 1940.

their origin in early life, that prevention or early correction can only be accomplished at that time, and that the pediatrician and general practitioner who are consulted first must have the psychiatric point of view, if they are to meet these cases adequately. The proceedings of this conference[2] merit careful study.

The nutrition of the psyche is just as important as the nutrition of the soma, and the foundation for both must be built correctly if the final product is to be good. Furthermore, the psyche and the soma are so inextricably bound together that what affects one is bound to affect the other. Expert treatment to one-half of the child and amateur treatment to the other half is too true a description of present day pediatrics, to be acceptable to our egos. Refusal to acknowledge this picture, however, simply means that the condition will continue. When, or if, the pediatrician can direct the feeding of the psyche as well as he can that of the soma, he should have more peace of mind, provided financial worries haven't nullified the good effect of his added accomplishment. This may sound peculiar but actually is a practical statement of one of the difficulties to this type of practice. It takes time to sit and listen to a parent tell the story of the problem that is causing her so much concern, and more time to show her that a change of tactics is desirable. It would probably take even more time to convince her that an extra fee was necessary. The temptation is great to cut short the conversation by writing a prescription or by giving the parent some rule of thumb advice. The prescription might be acceptable for the moment, and undoubtedly would be the safest way to dismiss the patient if the physician weren't capable or willing to give advice based on a clear understanding of the factors involved.

Unless, or until, there is a marked change in the practice of pediatrics and the methods of remuneration to the practitioners, pediatricians will have to practice mental hygiene without too much lost motion. Elaborate studies as practiced by the child guidance clinics, which include medical examination, psychological studies, social work investigations and, finally, sessions with the psychiatrist, are probably forever beyond the scope of private pediatric practice. The analogy is close between minor surgery and mental hygiene and major surgery and psychiatry. The pediatrician can handle adequately a few minor surgical procedures but he must be able to recognize and refer to a surgeon any surgical condition that is beyond his capacity. It is just as important for him to differentiate between the beginning and advanced cases of personality difficulties that come his way. Sound clinical judgment in either field comes only from a properly trained intelligence, and good judgment is just as important in one field as the other.

The pediatrician with the mental hygiene point of view can see opportunities for valuable service to his patients in nearly every consultation. In some cases he will note living conditions or attitudes that might be corrected by a tactful suggestion. In other cases he will be consulted for some symptom that may have arisen from emotional tension and can only be treated adequately by eradicating the cause. A much larger per cent of his cases will present the combination of physical disease and mental attitudes as etiological factors. Even in the treatment of purely physical conditions an understanding of child psychology can be used to advantage.

The child is born with certain hereditary traits, structure, gland patterns, emotions, instincts and limits of intellectual capacity with which to start life. Truly hereditary factors can only be influenced by selective breeding, and are obviously beyond the control of the medical profession today. Endocrine disturbances, diseases, the nutrition and life of the pregnant woman may all be treated by her physician with advantage, both to the mother and to the child. Proper attention to these matters insures the baby against avoidable handicaps, and gives him a better start in life.

The stages of the child's physical development are well known and need not be mentioned here. Psychologists and psychiatrists have revealed by their studies that there are just as definite stages of mental and emotional or psychosexual development. These stages are not abrupt transitions normally but merge, the earlier stage gradually giving place to the next. Attempts either to accelerate or retard these stages can only lead to trouble. Severe or repeated psychic traumata, e.g., fears, repressions, deprivations, etc., occurring in any of these stages, tend to bind the personality to that stage of development and lead to a psychosexual retardation that may continue through life.

The child starts off on his extra-uterine career with certain automatic and reflex activities capable of immediate action. In addition, he has the funda-

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mental and persistent instincts of self preservation and reproduction, and the basic emotions of joy, fear and anger. The field of consciousness is like a field covered with snow, as yet untracked. Each new stimulus, however, that enters this field leaves its mark or pathway. This passage calls for some response from the instincts or emotions, and some voluntary or automatic activity. The degree of activity will depend on the intensity of the initial stimulus, the sensitivity of the receptive apparatus, and the boosting effect of the emotions involved. Subsequent stimuli of similar types tend to follow the same pathways, which thus become easier to tread as they are worn deeper and smoother through use. Other stimuli fortuitously entering the field of consciousness at near the same time are quite likely to be associated with the stimulus that causes the greater emotional involvement. In this way they may acquire an emotional coloring that is undeserved but none the less real. The behavior that follows is understandable only if this connection is known or sensed. To the trained eye, unclouded by emotion, the behavior of the young child is fairly transparent; abnormal behavior of the older child or adult, however, often can be explained only by the expert after intelligent and time consuming study.

The instincts which demand gratification when they are aroused, and the emotions which color and direct the response, are untrammeled in early infancy. The behavior that results is, however, acceptable to others for only a short time. Soon the curbing influence of the environment is perceived by the infant and the process of learning social adaptation has begun. This process is facilitated by bodily comfort and is rendered difficult by factors such as metabolic disturbances, food allergies, infections or other physical ailments that cause repeated discomfort to the child, and distress and worry to the family. The pediatrician who relieves these ailments has practiced mental hygiene whether he realizes it or not. Moods are contagious, and neither the parent nor the child is immune. Fear and anger are essential for self preservation because they produce physiological changes that quickly prepare the body to run or fight. When neither is possible or necessary, the pent up energy produced by the emotional upset racks the body until it is spent. Both the child and the parents suffer in consequence. On the other hand, joy leads to comfort and happiness, and is physiologically constructive. The atmosphere surrounding the baby, therefore, means a lot to his well being. Words mean little to the small child, but emotions and actions mean a great deal, and are quickly reflected in his behavior. The unselfish love of the parents, especially of the mother, is highly prized by the infant, and the slightest suggestion of its loss because of his behavior exerts a strong corrective action. The selfishness or hostility of the parent, disguised as over-solicitude, may be sensed by the infant and produce uneasiness or anger. The undisguised hostility revealed by stern or rough methods of correction and insistence on strict obedience to arbitrary commands either breaks the child's spirit or calls forth his fighting qualities. Unhappiness and trouble are bound to follow and the effects may persist through life. If the child chooses to fight there are no Marquis of Queensbury rules to govern the contest and no limit to the number of rounds. The original fight is soon followed by many more and the chip stays on the shoulder except when it is being knocked off. Habit training and eating are generally the bones of contention, and not infrequently the parents discover that they are "leading with their chins". Unfortunately, this discovery doesn't stop the fight, but may force the parents to ask for help. It is here that the pediatrician should be able to give sound advice. For example, instead of merely prescribing a tonic for the poor appetite, it is his job to examine the child for physical causes, to investigate the living conditions for possible faults, and to urge the mother to retire from the fray, if a contest of wills is the basis of the trouble. He can and probably should warn her that if peace isn't made quickly the war will spread.

The child who continues to fight is bound to acquire injuries and scars, but from the mental hygiene point of view he is a better bet than the child who runs away. The latter, either because his environment is overwhelming or because he has become sensitized by a shocking experience or was born with an allergic, shrinking constitution is unable to fight when he should. Unless he receives intelligent help this child cannot face the normal vicissitudes of life or his own conscience with any degree of happiness. He attempts to deceive himself and others by developing various neurotic symptoms or by complete withdrawal from reality. The pediatrician should be on the alert to recognize the symptoms of this condi-

tion in their early stages, and should realize their gravity. He should also be fully aware of his own limitations as a mental therapist when dealing with this type of child.

Certain basic knowledge is necessary if good advice is to be given in regard to habit training and character building. The urges to live, grow, acquire and reproduce are integral parts of the child's make-up. These urges are essentially primitive in their nature and can only be brought under partial control by conscious effort. As long as life lasts they produce recurring waves of energy which must be utilized in ways that will relieve their tension. These surges of energy enter the field of consciousness of the infant and produce activity. For example, the recurring pangs of hunger appear and can only be satisfied by eating. This act, therefore, relieves the most frequent manifestation of the instinct of self preservation. In addition, the sucking of the nipple and the associated odors and taste satisfy the need for pleasure. Thus both of the basic instincts center their chief interest in the mouth area. The pediatrician is only too familiar with the various deviations from the ideal breast feeding of the infant, and a large part of his work consists of directing infant feeding. From the standpoint of nutrition he does a pretty good job. Unfortunately little attention has been paid to the necessity of satisfying the need for pleasure. The breast or bottle that flows too freely may play a part in developing an improvident, overly optimistic personality, or may lead to excessive thumb sucking. The immediate effect of an inadequate breast or of too small an opening in the nipple is well known: the infant yells and pounds and kicks to show his feeling of frustration. The same can be said with added emphasis when the food causes colic. Continuation of such conditions mean continued turmoil, worry, loss of sleep, medication, enemas, etc., and the development of both the psyche and the body is affected adversely. On the other hand, wholesome food properly fed, the early introduction of new foods and gradual weaning are sound psychologically as well as physiologically.

When the teeth come in the child has a new outlet for pleasure demands in biting. He also has a weapon wherewith to express aggression. Nail biting is supposed to occur in children who suffer from frustrations in the teething stage and to indicate tension from smouldering resentment. It is certainly a potent weapon for annoying some parents, and if they show their annoyance by trying to break the habit, it may become a fixed type of behavior.

Weaning from the breast or bottle should take place around the end of the first year. At that time the baby has learned to use his hands well enough to handle and investigate objects, and is able to get about by crawling or walking. His curiosity knows no bounds, and nothing is safe if he can reach it. Wanton destruction is not his object but breakage doesn't disturb him. Unless he has plenty of playthings and sufficient space to work off his energy he becomes the target for many "Don't-s" and punishments which he feels are not deserved. About this same time his excretory apparatus is brought forcibly to his attention by efforts to train him. After weaning, the pleasure associated with excretion grows to the extent of superseding the pleasure of sucking, and this pleasure has previously been indulged according to his own desires. Now he learns that Mama wants him to use the chamber pot and to use it when she tells him to. He can show his love by acceding to her requests, and he soon learns that he can show his resentment by refusing. The wise parent realizes that she is asking for a favor and not a right and shows her gratitude and pleasure when he grants it. The unwise parent often starts this training too soon, demands compliance and creates resentment. The contest of wills, thus begun, results in daily fights over an extended period. The possibilities for distortion of the child's developing personality coincide with the number of ways the combatants can think of to attack and defend themselves. Under such circumstances the destruction, which at first was incidental to the child's curiosity, takes on a new meaning; he finds that it angers the parent. Since all is fair in love and war he is pleased at this discovery. Actual destruction when possible and phantasies of destruction otherwise produce an abnormal sort of pleasure. Excessive sadism or masochism may result. When the mother tells how the youngster will sit on the pot for an hour and then will defecate on the rug and call her attention to the fact to invite a spanking, the picture drawn above is well developed. Considerable undoing is necessary to repair the injury to the child's personality so that it will not affect too seriously his future behavior.

Normally the child learns how to take care of his excretory needs in a socially acceptable way before

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he is three years old. The libidinal content of these actions diminishes and is sublimated into such play activity as making mud pies, playing in the sand, collecting, etc. Before this he has discovered the genitals and has begun the transfer of the libido to the new location. Rank[3] has been credited with the statement that this transfer is done by the hand. It is perfectly normal for the small child to play with the genitals, and there is probably no ideation connected with such play unless the parents try to stop it. Masturbation should be looked upon as normal behavior in infancy, during the transition period from three to five, and at puberty. Other manifestations of interest in and play with the genitals are usual during the transition period and should not arouse emotional storms in the parents. Curiosity and play here, as in every other respect, are parts of the child's education and outlets for instinctual energy. Parents who are horrified at the very thought or are terrified through misconception as to the bad effects of such activity are likely to behave as the parents mentioned above who made such a botch of toilet training. Psychic traumata resulting from punishment and dire threats by such parents are the seeds from which many subsequent neuroses develop.

The temptation is great to ramble into too many details in a discussion of this sort because there are few studies more fascinating than that of the factors entering into human behavior. Society recognizes certain types of conduct as desirable, and other types as undesirable. From necessity certain rules have been established through law and custom, and punishment is meted out to the offender. Nature's laws, based on strict adherence to cause and effect, are even more exacting. The pediatrician who undertakes to act as director of the child's growth and development must, therefore, be prepared not only to combat the foes of disease that threaten his patient, but must also be prepared through study of nature's laws, to direct the nutrition of both body and the mind. Research and clinical experience have simplified the task of supervising the nutrition of the body so that today the job can be done better and with fewer lost motions than yesterday. These same instruments are dispelling the fog which has obscured the development of the personality. The time seems ripe for the pediatrician to advance to another stage of his own development and become a Mental Hygienist.

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1004 West Franklin Street.

Mental Hygiene Activities

Virginia, and more especially Richmond, will be conscious of many visitors from all parts of the United States during April and May. Furthermore Virginians, as well as the visitors, will awake to the fact that not only is the state the center of old gardens, the cradle of American history, and Jeffersonian architecture, but also it is the seat of two of the best and most important medical centers in the country. Richmond, for these and many other reasons, is to be host to six national medical societies during the short span of two weeks from April the twenty-fourth to May the ninth. Five of these deal with some phase of the brain and its disorders, and the sixth, the American Academy of Pediatrics sponsors a mental hygiene section.

On April the twenty-fourth the American Academy of Pediatrics will open a two day session: May the first to the third the Society of Neurological Surgeons meets, and from May the fourth to the ninth the American Psychiatric Association, the American Psychoanalytical Association, the American Chapter of the International League Against Epilepsy, and the National Association of Private Psychiatric Hospitals overlap in associated and joint meetings.

Are the physicians and laity of Virginia aware of the significance of these national societies meeting here? Does Virginia need neurologic, psychiatric, and mental hygiene awakening? Or has the state's progress in these fields attracted the country's outstanding psychiatrists? The state has awakened to the need of mental hygiene, and it has progressed tremendously in the past six years. It is partly in recognition of this progress that the American Psy-

chiatric is meeting here this year. We believe that the physicians of the state will find many things of interest in the psychiatric program to be presented. Some of the general topics to be discussed are the treatment of the mentally sick by physical methods, by pharmacological shock, and electric shock, and there will be sections on electro-encephalography, brain pathology, alcoholism, and other phases of psychiatric treatment and institutional guidance.

The Mental Hygiene Society of Virginia is proud of the opportunity to sponsor jointly with the American Psychiatric Association a public meeting on Thursday evening, May the eighth, in the Jefferson Hotel Auditorium. The guest speakers, Dr. Abraham Myerson and Dr. Leonard G. Rowntree, are well known in all fields of medicine. Dr. Myerson, now professor of neurology at Tufts College Medical School and clinical professor of psychiatry at Harvard Medical School, is a pioneer in the physiology and the pharmacological action of drugs on the autonomic nervous system. In addition he has written much on eugenics and inheritance of mental disease.

Dr. Rowntree, Director of the Philadelphia Institute of Medical Research and Chief of the Medical Division of the Selective Service System in Washington with the rank of Colonel in the Medical Reserve Corps of the United States Army, has contributed much to medicine in the chemical investigation of the patient. He introduced the phenolsulphonephthalein test, the dye methods of determining liver function and the blood volume of the body. He has also done extensive work in endocrinology on growth, especially experimental work with the thymus gland.

The devotees of the annual Institute of Public Affairs at the University of Virginia will have a rare treat when they attend the panel discussions on July the second. The general topic of the Institute this year is based on the present International situation. As a part of this program, sponsored by the Mental Hygiene Society of Virginia, two panel discussions will be presented, one on "National Regimentation and its Effect on Personality," and the other on "Personality Patterns and Placement in National Defense". The subject of the evening address will be "Immediate Problems of National Morale". These subjects are not only appropriate but also vitally important to all Americans in the present state of dilemma of the populace.

The three discussants, Dr. Karl A. Menninger, Dr. Harry Stack Sullivan, and Dr. C. Macfie Campbell, are psychiatrists of exceptional ability and wide experience.

Dr. Menninger, a member of the staff of the clinic of the same name, is professor of criminology, mental hygiene and abnormal psychology at Washburn College, Topeka, Kansas, and research associate in psychiatry in the Washington School of Psychiatry, Washington, D. C. He is also the author of the widely read book, "The Human Mind".

Dr. Sullivan is president of the William Alanson White Foundation and president and faculty chairman of the Washington School of Psychiatry; he is also head of the National Health Institute at Bethesda, Maryland. Dr. Sullivan is a leading psychoanalyst and has written much on this subject. He is now psychiatric advisor to the Selective Service System in Washington.

Dr. Campbell, professor of psychiatry at Harvard Medical School, and Director of the Boston Psychopathic Hospital, has been one of the leading members of the profession in the advancement of psychiatry, in teaching, and in formulation of the principles of the American school of psychiatry, and in the development of the American Psychiatric Association; in fact, he is with William Alanson White and Adolph Meyer, one of the deans of modern psychiatry.

Physicians, social workers, professors, teachers, lawyers, ministers and all of those who are associated in the welfare of the public should honestly attempt to avail themselves of this opportunity of getting an understanding into the problem which faces us for they can do much to quell the fear in the minds of the uninformed and thereby reduce the risk of mass hysteria.

HOWARD R. MASTERS, M. D.

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The Council Medical Society of Virginia

A meeting of the Council was held at the Society's office on Monday, April 7, 1941, at 3:00 P. M., its special purpose being to survey the medical resources available for civiiian health in defense work. The President, Dr. Walter B. Martin, presided. Others attending were: Colonel Mills Neal, State Director of Selective Service; Colonel Ernest T. Trice, ranking medical officer of the State National Guard, and associated with Colonel Neal; Dr. Hugh H. Trout, State Representative on the National Preparedness Committee; Drs. J. M. Emmett, J. E. Knight, and H. B. Mulholland, vice-presidents; Drs. Julian L. Rawls, J. Morrison Hutcheson, James L. Hamner, W. C. Akers, Alex. F. Robertson, Jr., Andrew D. Hart, Jr., and C. B. Bowyer, councilors; and Dr. I. C. Riggin, State Health Commissioner.

In response to a request by Dr. Martin, Colonel Neal spoke, expressing appreciation for the excellent work which had been done by the many physicians on examining boards throughout the State but felt they are not as well organized as they might be and asked for further cooperation on the part of doctors making the necessary physical examinations of selectees. Of the registrants for service, 74 per cent are white and 26 per cent colored. It had been found that some doctors on the examining boards are being called on much more than others, as a number cannot serve when needed, and many have been called into military service. He hoped the councilors could assist in seeing that examinations are speeded up. Being asked how doctors on the examining boards would take suggestions from councilors, Colonel Neal said he felt doctors were making the examinations for patriotic reasons and did not think they would resent the councilors urging them to complete the work as promptly as possible.

Dr. Martin explained that a total of 7,600 men must be examined by May 1 and expressed the hope that the Council could work out a plan for completing this work. He asked Colonel Trice for any suggestions he might wish to make.

Colonel Trice said he was appointed by Governor Price as medical director to secure physicians for the examining boards, which he had done with the help of Drs. Martin and Trout, but some of the physicians had resigned from the boards because of personal work, some had been called to service, and a few had been unable to cooperate, so that something was now needed to stimulate the interest and pride of those on the boards that the examinations might be completed. He said his office is not in a position to pay for examinations but they would be glad to supply some equipment necessary in making tests. He asked Dr. Martin to explain a plan he had in mind.

Dr. Martin said he felt the doctors of the State are not organized sufficiently down to the county unit, and suggested that each district organize a district council, composed of one member from each county, with the councilors of the State Society as chairmen of the districts. In case of such organization, he suggested that Dr. Trice write him and the councilors where the work is lagging so they might especially urge doctors in such counties to make the examinations.

Dr. Trout said he was just back from a meeting of the representatives of the Third Corps Area in Pittsburgh, and he found this plan is used and working well in Pennsylvania and Maryland.

In response to a question by Dr. Bowyer, Dr. Martin said he felt the local societies, where such exist, should make appointments on the District Councils, and that the councilors should make them in counties with no societies.

Dr. Bowyer thought the number of examining physicians in each county should be in proportion to the number of selectees to be examined. Dr. Trout said that where additional examiners are needed, Colonel Trice would see that they are appointed if names are sent him by the councilors.

Dr. Knight felt the doctors would cooperate better if the draft boards would notify physicians when the examinations are to be made and let physicians be designated to serve at such times.

Dr. Robertson said in making examinations of selectees in Augusta County, they found it necessary to call in doctors not members of their examining board to assist, but members of the board signed the certificates. Dr. Trice thought this was all right when signed by members of the boards, as it would be similar to the plan that doctors use in having technicians work for them.

Dr. Hamner said he was proud of the record made in Amelia County and the whole quota had been examined. He felt the examinations could be completed promptly by having a system suitable to each community.

In further explanation of the district councils, Dr. Martin referred to a letter he had recently sent each councilor in which he suggested, if the councilors think well of it, there might be an amendment to the By-Laws to create such district councils.

A motion was then offered by Dr. Emmett that the Council favor the establishment of a district council in each district, with the Councilor as chairman and responsible for his district council, and, further, that an amendment be made to the constitution and by-laws at the next meeting of the Society to make these permanent organizations.

Dr. Hutcheson seconded the motion and it was unanimously adopted.

Dr. Martin said he would have the Judicial Committee formulate the amendment to be presented to the next House of Delegates.

In reply to Dr. Martin's inquiry about the questionnaires, Dr. Trout said Virginia is a fraction ahead of other states in the Third Corps Area but he would like 100 per cent answers to these, and he asked the councilors if they could not obtain a completed form from every doctor and requested them to send some report on each name on the last lists sent them. These reports are to be sent directly to Dr. Trout.

The next question for consideration was that of a survey of medical needs for the civilian population, industrial practice, hospitals, medical schools, health work, etc. Dr. Trout stated he had forms sent him by the American Medical Association to be filled out for each county in the State. After presenting these for consideration, Dr. Rawls offered a motion that they be sent by the councilors to the contact men in the Council Districts to be executed. This was seconded and adopted.

Dr. Riggin said this was a real job. About three weeks ago he had undertaken a study in his office on the availability of physicians to the population, his survey being based on physicians under and over sixty years of age, whereas the questionnaire presented by the American Medical Association was on the basis of fifty-five years, under and over.

Dr. Robertson felt it would be well to have a substitute motion for that just adopted and ask Dr. Riggin to answer the questionnaires as his information would be much more accurate than what the councilors might obtain.

Dr. Rawls moved to rescind his motion about the distribution of these questionnaires, and this was seconded by Dr. Bowyer. Dr. Trout said he felt the first motion would put a lot of extra work on the societies and doctors and they would not be in a position to secure as accurate information as that available to Dr. Riggin. The question being put, it was voted to rescind the former motion.

Dr. Martin said the question now before the Council was what to do about the questionnaires, and Dr. Robertson offered a motion that the Council request Dr. Riggin to fill in such part of the questionnaires as his statistics will permit and then distribute them to the councilors to be completed. Dr. Riggin agreed to this if the councilors would be willing to accept his figures and Dr. Robertson's motion was adopted.

Dr. Martin said there had been some criticism in regard to having "open bars" in hotel rooms at the State meetings as they proved disturbing to a number of members on account of the late hours kept. Recently, in a talk with some of the committee on arrangements, it had been suggested as an alternative to ask exhibitors interested to have a cocktail hour from five to seven in the afternoons, and he wished to know how the councilors felt about this. After discussion, a motion was made and adopted to authorize the committee on arrangements to notify the exhibitors that it is the wish of the Council that they do not set up a continuous bar but have definite afternoon hours for cocktail parties which would not conflict with the scientific sessions or sleeping hours.

It was stated that Dr. R. W. Miller, President-Elect, was absent because of illness, having been in the hospital for several weeks, and a motion was adopted that he be sent flowers from the Council with a note expressing their regret at his absence and the wish for a speedy recovery.

The secretary stated that upon written authority of Dr. Hutcheson of the Finance Committee, which was in accordance with action of the Council on October 3, 1939, she had placed $3,000 of the Society's funds in the Savings Department of the Southern Bank and Trust Company. Upon request from the bank for this authority, she had sent them a copy of Dr. Hutcheson's letter, and would like the Council to approve this action. It was stated that the action of the Council referred to above seemed to give the Finance Committee power to invest the Society's funds as they wish, but approval was expressed of Dr. Hutcheson's letter.

As a member of the Legislative Committee, Dr. Hutcheson was requested to ask Mr. Duval to make a study of the present Medical Practice Act and to offer such suggestions and recommendations for changes as he might deem necessary at the next meeting of the Council.

It was stated there had been some criticism of the fact that doctors on induction boards are placed on a per diem basis while those on the examining boards receive no pay. Dr. Trout and Colonel Trice explained that this is because the Federal Government pays those on the induction boards while there are no funds to pay examining physicians.

There being no further business, the meeting adjourned.

AGNES V. EDWARDS,
Secretary.

Approved:
WALTER B. MARTIN,
President.
Date 4/18/41.

Correspondence

Survey of Facilities for Medical Care of the Indigent in Certain Counties of Virginia.

A subject always uppermost in the minds of health officials and doctors generally is the care of the sick, especially those unable to secure for themselves proper medical attention and hospitalization because of financial reasons. It is hoped the survey to be undertaken may throw new light on this problem. This issue also gives an editorial discussion of the subject.

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COMMONWEALTH OF VIRGINIA
DEPARTMENT OF HEALTH
RICHMOND

MARCH 13, 1941.

DR. W. B. MARTIN,
PRESIDENT, MEDICAL SOCIETY OF VIRGINIA,
NORFOLK, VIRGINIA

DEAR DR. MARTIN:

As you are aware, the provision of medical care to the indigent on the relief and assistance rolls presents various perplexing problems to the health and welfare agencies. For some time Dr. William H. Stauffer, Commissioner of Public Welfare, and I have felt that the interests of all concerned might be served by an objective survey of this problem. We recently learned that the National Institute of Health of the United States Public Health Service has made surveys of this character in the States of New York and Minnesota and has personnel available for making further studies of the same character at the request of other interested states.

Accordingly, at the request of Dr. Stauffer and myself, a conference was recently held in Richmond with Mr. G. St. J. Perrott, Chief, Division of Public Health Methods of the U. S. Public Health Service, and Dr. Dean A. Clark and Mr. Louis S. Reed of Mr. Perrott's staff, in the hope of obtaining the assistance of the Public Health Service in making a survey of this problem in Virginia. We at that time requested the Service to make a survey of the medical relief problem in this State, which they agreed to do. We feel that through studies of this nature much information may be secured which will be of inestimable value to all of us interested in health and welfare and to the medical profession in general.

The survey will study the procedure and arrangements through which medical care, including hospitalization and other allied services is provided to indigent charges of the local welfare agencies, with attention to such matters as the methods of authorizing physicians' services and hospital care, the remuneration paid for such services and the degree to which the arrangements are satisfactory to the medical profession, hospitals, the public agencies and others concerned in the provision of medical relief.

Since it would be impracticable to survey every county of the State, certain representative areas should be selected for study. In these areas information will be obtained by contact with the practicing physicians, the local health and welfare officials, hospital personnel, dentists, nurses, etc. The U. S. Public Health Service will make reports of the findings of these surveys to the State Departments of Health and Public Welfare. It is of course understood that these studies are to be purely of a fact-finding character and involve no obligation on the part of the State.

It is our hope that the medical profession will cooperate in this study and it is with this in mind that I am transmitting this brief outline of the proposed plan. It is further contemplated that those assigned to make the field studies will appreciate the opportunity of conferring with you and other representatives of the Medical Society of Virginia.

I will be glad to arrange for a conference with you or whomever you may designate and staff members of the U. S. Public Health Service on a date convenient to you.

Very truly yours,
(Signed) I. C. RIGGIN,
State Health Commissioner.

NORFOLK, VIRGINIA
MARCH 14, 1941.

DR. I. C. RIGGIN,
STATE HEALTH COMMISSIONER,
RICHMOND, VIRGINIA

DEAR DOCTOR RIGGIN:

I have your letter of the 13th.

I am very glad indeed that you and Doctor Stauffer have considered the plan of having a survey of the medical care of the indigent on the relief and assistance rolls. I am sure that the physicians throughout the State would be in favor of such a fact-finding investigation and would be glad to cooperate in any way possible.

I am sending a copy of your letter to Doctor John Hundley, who is Chairman of the Committee on Medical Economics of the Medical Society of Virginia.

It would probably be well to have him attend a conference and if you will let me know what time is convenient for you. I will ask Doctor Hundley to be there and I will make every effort myself to be present.

Sincerely yours,
(Signed) WALTER B. MARTIN,
President, Medical Society of Virginia.

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Military and Naval Section

In order to speed up the examinations of selectees, the following have been appointed as new

Examining Physicians on Local Boards

Dr. J. T. Booth, Ashland.
Dr. George B. Craddock, Lynchburg.
Dr. H. R. Carter, Ashland.
Dr. Hawes Campbell, Jr., Hanover.
Dr. J. Glenn Cox, Hillsville.
Dr. J. F. Chairsell, Christiansburg.
Dr. Dean Creger, Radford.
Dr. R. M. DeHart, Radford.
Dr. D. S. Divers, Pulaski.
Dr. C. A. Easley, Jr., Danville.
Dr. J. Frank Folk, Warrenton.
Dr. Linwood Farley, Richlands.
Dr. H. E. Ferguson, Richmond.
Dr. H. R. Farley, Pulaski.
Dr. M. M. Gordon, Martinsville.
Dr. A. B. Gravatt, Mechancisville.
Dr. Fred Gochenour, Upperville.
Dr. Earl C. Gates, Chester.
Dr. C. E. Holderby, Williamsburg.
Dr. Cecil W. Hickam, Pulaski.
Dr. E. J. Haden, Ore Bank.
Dr. John D. Hamner, Jr., Ashland.
Dr. P. L. Hill, Petersburg.
Dr. J. Walker, Jackson, Machipongo.
Dr. L. P. Jones, Emporia.
Dr. G. R. Joyner, Suffolk.
Dr. D. W. Kelly, Jr., Culpeper.
Dr. Thomas E. Knight, Farmville.
Dr. Frank Klune, Lorton.
Dr. F. K. Lucas, Blacksburg.
Dr. R. S. LeGarde, Damascus.
Dr. D. C. Mayes, Church Road.
Dr. H. L. Mitchell, Lexington.
Dr. J. C. Moxley, Independence.
Dr. R. A. Morison, Abingdon.
Dr. A. E. Murray, Beaverdam.
Dr. B. H. Martin, Richmond.
Dr. Richard Mason, The Plains.
Dr. Samuel H. Mirmelstein, Newport News.
Dr. H. M. Price, Martinsville.
Dr. G. W. Phipps, Independence.
Dr. Robert T. Pierce, Jr., Newport News.
Dr. John W. Pierce, Suffolk.
Dr. Wade C. Payne, Haymarket.
Dr. N. G. Patteson, Ore Bank.
Dr. Harold W. Potter, Newport News.
Dr. W. O. Pollard, Speers Ferry.
Dr. Morgan B. Raiford, Franklin.
Dr. J. Gordon Rennie, Pulaski.
Dr. Bruce Randolph, Richmond.
Dr. A. C. Ray, Jr., Ashland.
Dr. A. J. Russo, Portsmouth.
Dr. P. A. Richards, Vinton.
Dr. I. K. Redd, Ellerson.
Dr. Russell E. Reid, Newport News.
Dr. Charles Rosenberg, Lorton.
Dr. N. P. Snead, Cartersville.
Dr. T. E. Stanley, Beaverdam.
Dr. Willis M. Sprinkle, Marion.
Dr. J. W. Sinclair, Warrenton.
Dr. B. C. Schuler, Shenandoah.
Dr. P. S. Smith, Abingdon.
Dr. Ernest Scott, Lynchburg.
Dr. E. P. Tompkins, Lexington.
Dr. T. S. Ussery, Leesburg.
Dr. Edwin Vaughan, Ashland.
Dr. Judson Vaughan, Ashland.
Dr. A. G. Vaden, Temperanceville.
Dr. John D. Williams, Manassas.
Dr. Frank D. Whitworth, Front Royal.
Dr. George C. Williams, Pearisburg.
Dr. J. J. Waff, Shenandoah.
Dr. J. W. White, Luray.
Dr. J. A. Wright, Sr., Doswell.
Dr. J. A. Wright, Jr., Doswell.
Dr. P. H. Winston, Clarksville.
Dr. A. McGarvey Wallace, Gate City.
Dr. S. H. Yokeley, Meadowview.

Medical Advisory Boards and Boards Served

New members appointed to Advisory Boards are:

No. 9—NOTTOWAY AND AMELIA COUNTIES
Dr. James L. Hamner, Mannboro.

No. 14—HENRICO, CHESTERFIELD, CHARLES CITY, NEW KENT, HANOVER, GOOCHLAND AND POWHATAN COUNTIES
Dr. A. L. Herring, Richmond.
Dr. Frank N. Pole, Richmond.

No. 29—CITY OF CHARLOTTESVILLE, AND ALBEMARLE, NELSON, BUCKINGHAM, FLUVANNA AND GREENE COUNTIES
Dr. Edgar W. Kirby, University.

No. 33—PITTSYLVANIA COUNTY AND CITY OF DANVILLE
Dr. M. H. Watson, Danville.

No. 40—WASHINGTON COUNTY AND CITY OF BRISTOL
Dr. R. A. Morison, Abingdon.
Dr. V. M. Cox, Bristol.

Medical Reserve Officers

In addition to those listed in the April MONTHLY, the doctors listed below have been ordered to extended active duty with the regular army by the commanding general of the Third Corps Area:

Major Earl Joseph Haden, Ore Bank—Fortress Monroe.
Major George Frank Holler, Waynesboro—Camp Stewart, Ga.
Capt. John Newton Dunn, Blackstone—Camp Lee.
Capt. Paul S. Hill, Harrisonburg—Fort Eustis.
Capt. Frank Bernard Schultz, Falls Church—Indiantown Gap, Pa.
Capt. James Marion Suter, Bristol—Camp Lee.
Capt. Thomas M. Vorbrinck, Norfolk—Fortress Monroe.

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Lt. Samuel M. Bloom, Clifton Forge—Camp Lee.
Lt. Paul K. Candler, Reedville—Fort George C. Meade, Md.
Lt. Frank Wm. Claytor, Roanoke—Fort Bragg, N. C.
Lt. John B. Claytor, Jr., Roanoke—Camp Livingston, La.
Lt. Thos. H. S. Ely, Jonesville—Fort George G. Meade, Md.
Lt. Charles Francis Finley, Arlington—Fort George G. Meade, Md.
Lt. John Edward Fissel, Newport News—Fort George G. Meade, Md.
Lt. Hamilton Douglas Fitzpatrick, East Radford—Fortress Monroe.
Lt. Julius Fogel, Lynchburg—Fort Benning, Ga.
Lt. Jefferson Bishop Kiser, Emporia, Fort Eustis.
Lt. Roscoe I. McFadden, Newport News—Fort George G. Meade, Md.
Lt. George Robt. Rosenbaum, Jewell Ridge—Fort George G. Meade, Md.
Lt. Albert John Russo, Check—Fort Belvoir.
Lt. John Dennis Snider, Ashburn—Fort George G. Meade, Md.
Lt. Harry Steinberg, Bastian—Fort George G. Meade, Md.
Lt. William Lyons Taliaferro, Norfolk—Fort George G. Meade, Md.
Lt. John Hoge Woolwine, Jr., Blacksburg—Fort George G. Meade, Md.
Lt. Ralph G. Rohner, formerly Richmond, but more recently of Mitchell, Ind.—Station Hospital, Edgewood Arsenal, Md.

Correction

Lt. Joseph T. Phillips, Jr., whose name appeared in the last issue as being from Newport News, should have been Norfolk. He is at Fort Eustis.

Public Health Statistics

I. C. RIGGIN, M.D.,
State Health Commissioner of Virginia.

The report of the Bureau of Communicable Diseases of the State Department of Health for March, 1941, compared with the same month in 1940 and for the period of January through March, 1941, compared with the same period in 1940 follows:

	Mar. 1941	Mar. 1940	Jan.-Mar. 1941	Jan.-Mar. 1940
Typhoid and Paratyphoid Fever	12	13	28	30
Diarrhea and Dysentery	56	76	141	200
Measles	9,820	437	14,003	667
Scarlet Fever	232	200	635	561
Diphtheria	48	56	122	187
Poliomyelitis	2	1	7	5
Meningitis	10	6	24	20
Undulant Fever	0	0	3	4
Rocky Mountain Spotted Fever	0	1	1	3
Tularaemia	2	1	15	24

THE RHEUMATIC FEVER PROGRAM

Many physicians practicing in the southern states are of the opinion that rheumatic fever is not an important disease in their territory. However, recent studies and observations seem to indicate that it is quite prevalent not only in the south but even in tropical countries.

In May 1940, a children's cardiac program was undertaken by the state Department of Health in cooperation with the Out-patient Department of the Medical College of Virginia. This activity was designed as a demonstration and study of the incidence of this disease, and the need for proper care and treatment of these cases. The program's primary objective is to prevent the damage caused in children by rheumatic fever through early diagnosis and by prophylatic and curative treatment.

The basic idea, involving prevention of heart-crippling conditions and rehabilitation of those already victims, is in line with the purposes behind the orthopedic branch of the State Health Department's Crippled Children's Bureau.

It is expected that valuable statistical facts will be collected relative to the frequency of rheumatic fever in Virginia, its manifestations, predisposing factors, and prognosis. Already, there is hope that earlier accurate diagnosis may be accomplished, and more effective prophylatic and curative treatment evolved. While naturally, research projects will develop from the program, its main function will be active assistance to indigent children.

For the present, at least, congenital heart deformities will be included with the hope that supervised hygienic care may lessen the incidence of bacterial endocarditis (the gravest complication) as well as other infections. In addition, children diagnosed as possible cardiacs will be included mainly for prolonged care and observation. Those in this latter group while having various heart murmurs or irregularities, cannot be labeled as victims of rheumatic fever, syphilis or possessing congenital heart deformities.

The present program includes children and adolescents from the City of Richmond and Henrico County. They are admitted to the clinic up to twenty-

one years of age, and are eligible for hospital and convalescent care up to the age of sixteen. Patients are referred by private physicians, school physicians, child-caring institutions, hospitals and other children's clinics. The economic status of their family should conform to that required for admission to any of the other clinics at the Medical College of Virginia Out-patient department at which the cardiac clinic is held.

The program personnel consists of a cardiologist, pediatrician, public health nurse, social service worker, and special clerk-stenographer. The latter three are full-time workers, the cardiologist and pediatrician being part-time workers. This personnel, as well as the clinic and hospital equipment and routine, and charting system, are set up in conformity with the requirements of the American Heart Association.

New Members

New members of the Medical Society of Virginia since the list published in the December 1940 issue of the MONTHLY are:

Dr. Edward Phelps Ambrose, Jr., Christianburg.
Dr. Bathurst Browne Bagby, Jr., Richmond.
Dr. William Linwood Ball, Richmond.
Dr. Lee Scott Barksdale, Hopewell.
Dr. Ruth Barnhart, Roanoke.
Dr. Samuel Michael Bloom, Clifton Forge.
Dr. Floyd Eugene Boys, University.
Dr. George Hopkins Carr, Jr., Portsmouth.
Dr. Clarence Conway Chewning, Jr., Richmond.
Dr. John Custis Crawford, Norfolk.
Dr. Jerome Feldman, Richmond.
Dr. Louis Friedman, Norfolk.
Dr. Eugene Miles Fusco, Grundy.
Dr. Gerhard Gabriel, Abingdon.
Dr. Edward Ellis Haddock, Richmond.
Dr. Herman Lee Harris, Richlands.
Dr. Richard Llewellyn Hudnall, Beverlyville.
Dr. Abraham Meyer Jacobson, Roanoke.
Dr. Brock Darden Jones, Jr., Norfolk.
Dr. John Hobart Judson, Arlington.
Dr. Benjamin Milton Kagan, Richmond.
Dr. Bernard Katzen, Roanoke.
Dr. Jefferson Davis Kernodle, Richmond.
Dr. Thornton Kell, Bluefield.
Dr. Edgar Willis Lacy, Jr., Richmond.
Dr. Meyer Henry Legum, Norfolk.
Dr. Thomas Addison Morgan, Franklin.
Dr. Raymond Ben Newman, Hampton.
Dr. Samuel Morton Novak, Alexandria.
Dr. Sidney Grey Page, Jr., Richmond.
Dr. John Strother Pearson, Jewell Ridge.
Dr. Edward Williamson Perkins, Richmond.
Dr. Seth Bridgman Perry, Hopewell.
Dr. Joseph Thomas Phillips, Jr., Norfolk.
Dr. Algerd Powell, Roanoke.
Dr. Stanley Hobson, Powell, Portsmouth.
Dr. Joseph Alexander Robinson, Richlands.
Dr. Robert Ralston Rudolph, Roanoke.
Dr. Milton Salasky, Norfolk.
Dr. John Hunter Selby, Alexandria.
Dr. Ben Steingold, Norfolk.
Dr. Lewis Tilghman Stoneburner, III, Richmond.
Dr. William Wickham Taylor, Norfolk.
Dr. George Douglas Vermilya, Richlands.
Dr. Glenn Leland Walker, Roanoke.
Dr. Lewis Klair Woodward, Jr., Front Royal.
Dr. Frank Anthony Zack, Newport News.
Dr. Francis Buerk Zimmerman, Leona Mines.

Woman's Auxiliary to the Medical Society of Virginia

President—MRS. GRIFFIN W. HOLLAND, Eastville.
President-Elect—MRS. E. LATANE FLANAGAN, Richmond.
Recording Secretary—MRS. HAROLD W. POTTER, Hilton Village.
Corresponding Secretary—MRS. J. WALKER JACKSON, Machipongo.
Parliamentarian—MRS. JAMES B. STONE, Richmond.
Treasurer—MRS. REUBEN F. SIMMS, Richmond.
Chairman, Press and Publicity—MRS. HENRY M. SNEAD, Petersburg.

Norfolk.

The Woman's Auxiliary to the Norfolk County Medical Society held its regular meeting on March 25, in the "Tea Room" at Ames and Brownley. It was decided to make a $50.00 contribution to the Norfolk Tumor and Cancer Control Clinic and to transfer to the treasury of the Tidewater Memorial Hospital $50.00 to be used for the next patient in the Auxiliary bed. The Auxiliary is helping with the Woman's Field Army Cancer Control drive with Mrs. Southgate Leigh, Jr., as chairman. Mrs. C. J. Devine was appointed chairman for the Community Fund drive among the doctors. Mrs. W. P. Adams, President-Elect, and chairman of the "Bulletin" reported four subscriptions. A short story on the Doctor's wife was read by Mrs. C. M. McCoy, Public Relations chairman.

After the business session, there was a luncheon

in honor of Mrs. Griffin W. Holland, President of the State Auxiliary. Other guests were Mrs. Holland's daughter, Mrs. Lawson of Eastville, Dr. Lockburn B. Scott, secretary of the Norfolk County Medical Society, Dr. Herbert Rogers, a member of the Advisory Board, and Dr. William Lett Harris.

"Doctors' Day" was celebrated by presenting to the Norfolk County Medical Society a projector for use in showing slides at the medical meetings.

During luncheon, a short fashion show was given with the doctors' wives acting as models.

The next meeting will be held on May 2, at the home of the president, Mrs. Albert Horton.

RUTH WILSON,
Publicity Chairman.

Northampton-Accomac.

The Woman's Auxiliary to the Northampton-Accomac Medical Society held its quarterly meeting on April 1, at the home of Mrs. E. W. P. Downing of Franktown, with seventeen members present.

The *Hygeia* chairman, Mrs. C. E. Critcher, reported that this magazine had been replaced in five more Accomac schools.

A letter was read from Mrs. Fletcher J. Wright thanking the Auxiliary for a check for the Memorial Bed at Catawba Sanatorium.

A benefit bridge party for general funds is planned for June. The mid-summer picnic plans have been given to a committee for definite arrangements.

Mrs. S. K. Ames, State chairman for Cancer Control, spoke briefly, giving a message from Dr. Shelton Horsley, and stressed periodic examinations.

The State President, Mrs. Griffin W. Holland, introduced Mrs. E. Latane Flanagan, Richmond, State President-Elect, who spoke on "This Job of Ours".

A reading and recitation by Mrs. E. W. P. Downing was much enjoyed.

Following an election of delegates to the State meeting, there was an auction of foods for general funds.

The October meeting will be held at the home of Mrs. John B. Mears, at Keller.

CATHERINE RUSH TROWER, *Chairman,*
Press and Publicity.

The Williamsburg-James City Auxiliary

Met at the home of Mrs. E. T. Terrell on March 11. Mrs. Griffin W. Holland, who had accepted an invitation to be guest speaker, was unable to attend on account of illness. Miss Mable Massey, Home Demonstration Agent, gave a talk on old glassware and exhibited some lovely pieces.

MARION HOLDERBY,
President.

Last Call for A.M.A. Meeting.

This is the *Last Call* for reservations for the nineteenth annual convention of the Woman's Auxiliary to the American Medical Association, which will be held at Hotel Carter in Cleveland, Ohio, June 2-6. All Cleveland extends a hearty welcome to you!

Virginia women who met the National President, Mrs. V. E. Holcombe of Charleston at the White Sulphur Springs meeting, last year, will especially wish to attend.

The Story of Jane Todd Crawford.*

(Continued from page 227, April issue)

McDowell tells us that he bared the patient's swollen abdomen, marked with a pen the course of the incision, and handed the knife to his nephew so that he might share any possible credit. Seeing the gleaming blade poised over her body Mrs. Crawford closed her eyes and started to sing a hymn. When the knife bit deep her voice quavered, but the tune continued to fill the little room. Dr. McDowell started on the serious part of the operation. Whenever Mrs. Crawford's voice, attempting hymn after hymn, shook with unusual agony, he whispered tender and soothing words as he might to a frightened child.

Suddenly the silence of the street gave way to a confused murmur; church was out. More than a hundred people gathered in front of the house, some curious, some sympathetic, but the most vocal screaming with righteous indigation. In the room where Mrs. Crawford lay, her anguished hymns were drowned out by loud shouts of male voices calling for the operation to stop. But the suffering woman, her knuckles white where they clenched the table, sang bravely on. According to McDowell's daughter the mob swung a rope over a tree so they might lose no time in hanging the surgeon if the patient died. Finally, as the minutes passed with no news from within, some of the more excited dashed for the door

*This paper, based on material from "Doctors on Horseback" was prepared and read by Mrs. John R. Hamilton of Nassawadox, Va., at a recent meeting of the Woman's Auxiliary to the Accomack-Northampton County Medical Societies.

and tried to smash it in, but the sheriff and the more sober citizens intervened.

Within, Dr. McDowell proceeded with the operation and removed a tumor weighing fifteen pounds from the ovary. The sac weighing seven and a half pounds was extracted from the Fallopian tube. The operation lasted about twenty-five minutes. After the usual dressings were applied the sound of hymns, which had been getting weaker and weaker, stopped at last. The half-unconscious patient was taken to her bed. When the mob learned that the operation was over and Mrs. Crawford lived there was silence for a moment followed by a cheer.

Actually the real danger was yet to come. Would Mrs. Crawford develop peritonitis. Dr. McDowell put her on the depleting diet then thought essential for combating fevers, and waited. When he came into her room five days later he was horrified to see her standing up making her bed. At his grave reproof, she laughingly replied that she had never been able to lie still. By means of persuasion, dire warnings and threats, he induced her to remain an invalid for twenty-five days, but at the end of that time she insisted on riding back to the neglected household tasks that had been worrying her more and more. With renewed energy she threw herself into the active life of a pioneer, moving on a short time later to a frontier outpost in Indiana, where there was new land to conquer from the forest. She remained in excellent health until her death at the age of seventy-nine.

The record tells us that all her children were, like their parents, respected citizens. The oldest son became a minister and served the Presbyterian church at Graysville, Indiana. Jane Crawford spent her last years with him. She died in 1842, thirty-two years after the operation. Her tombstone is standing four miles from the village in the Johnson cemetery. Her youngest son, Thomas was mayor of Louisville in 1859 and 1860.

McDowell's operation was one of the most important in the history of surgery. Although ovarian tumors are so common a malady that some specialists now treat more than a hundred a year, his cure for this otherwise fatal condition was only a lesser part of his discovery. More significant still was his demonstration that the abdominal cavity could be cut into with impunity. Indeed, his operation was a forerunner of a major part of modern surgery; its success combined with a revival of Caesarean sections to destroy a false taboo and blaze the way for other surgeons who invaded the uterus, the spleen, the kidney, the gall-bladder and the liver. Every operation for gallstones or appendicitis is a lineal descendant of one daring experiment made in the wilderness of Kentucky.

Book Announcements

Books received for review are promptly acknowledged in this column. In most cases, review notes will be published shortly after the acknowledgment of receipt. However, we assume no obligation in return for the courtesy of those sending us the same.

An Introduction to Dermatology. By RICHARD L. SUTTON, M.D., Sc.D., LL.D., F.S.R. (Edin.), Emeritus Professor of Dermatology, University of Kansas School of Medicine. And RICHARD L. SUTTON, JR., A.M., M.D., L.R.C.P. (Edin.), Assistant Professor of Dermatology, University of Kansas School of Medicine. Fourth Edition. St. Louis. The C. V. Mosby Company. 1941. Octavo of 904 pages. With 723 illustrations. Cloth. Price, $9.00.

Science and Seizures. New Light on Epilepsy and Migraine. By WILLIAM GORDON LENNOX, M. D., SC. D. HON., Assistant Professor of Neurology, Harvard University Medical School; Visiting Neurologist, Boston City Hospital; Secretary Harvard Epilepsy Commission; etc. Harper and Brothers. New York. 1941. Octavo of xiii-258 pages. With 10 illustrations. Cloth. Price $2.00.

The Avitaminoses. The chemical, Clinical and Pathological Aspects of the Vitamin Deficiency Diseases. By Walter H. Eddy, Ph. D., Professor of Physiological Chemistry, Teachers College, Columbia University; etc. And Gilbert Dalldorf, M. D., Pathologist to the Grasslands and Northern Westchester Hospitals, Westchester County, N. Y. Second Edition. Baltimore. The Williams and Wilkins Company. 1941. Octavo of xiii-519 pages. Cloth. Price $4.50.

The Mask of Sanity. An Attempt to Reinterpret the So-Called Psychopathic Personality. By Hervey Cleckley, B. S., B. A. (Oxon), M. D., Professor of Neuropsychiatry, University of Georgia, School of Medicine, Augusta. St. Louis. The C. V. Mosby Company. 1941. Octavo of 298 pages. Cloth.

Merchants in Medicine. By Emanuel M. Josephson, M. D., Fellow, American Association for the Advancement of Science; etc. Chedney Press. New York. 1941. Pamphlet of 223 pages. Price $1.50.

Techniques of Conception Control. By Robert Latou Dickinson, M. D., Former President, American Gynecological Society. And Woodbridge Edwards Morris, M. D., General Medical Director, Birth Control Federation of America. A practical manual issued by the Birth Control Federation of America, Inc. Baltimore. The Williams and Wilkins Company. 1941. Pamphlet of 56 pages. Illustrated. Price 50 cents.

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MacLeod's Physiology in Modern Medicine. Edited by PHILIP BARD, Professor of Physiology, Johns Hopkins University School of Medicine. With the Collaboration of Henry C. Bazett, Professor of Physiology, University of Pennsylvania; George R. Cowgill, Associate Professor of Physiological Chemistry, Yale University School of Medicine; Howard J. Curtis, Instructor in Physiology, Johns Hopkins University School of Medicine; Harry Eagle, Passed Assistant Surgeon, U. S. Public Health Service, and Lecturer in Medicine, Johns Hopkins University School of Medicine; Chalmers L. Gemmill, Associate in Physiology, Johns Hopkins University School of Medicine; Magnus I. Gregersen, Professor of Physiology, College of Physicians and Surgeons, Columbia University; Roy G. Hoskins, Director of Research, Memorial Foundation for Neuro-endocrine Research, etc.; J. M. D. Olmsted, Professor of Physiology, University of California; and Carl F. Schmidt, Professor of Pharmacology, University of Pennsylvania. Ninth Edition. St. Louis. The C. V. Mosby Company. 1941. Octavo of xxvi-1256 pages. Illustrated. Cloth. Price, $10.00.

Electrocardiography in Practice. By ASHTON GRAYBIEL, M. D., Instructor in Medicine, Courses for Graduates, Harvard Medical School; Research Associate, Fatigue Laboratory, Harvard University; and Assistant in Medicine, Massachusetts General Hospital. And PAUL D. WHITE, M. D., Lecturer in Medicine, Harvard Medical School; Physician, Massachusetts General Hospital, in charge of the Cardiac Clinics and Laboratory. W. B. Saunders Company. Philadelphia. 1941. 319 pages, with 272 illustrations. Cloth.

Electrocardigraphic interpretation is certainly one field in which statistics are paramount importance in the formation of standards. Dr. White, being both a good statistician and an eminent cardiologist, is, therefore, the kind of person who should undertake such a task as is represented here. We are fortunate that the man who has given us the modern classic on heart disease has also now with Dr. Graybiel produced this practical treatise.

The physical make-up of the book, with a full-sized tracing on one page and its interpretation on the opposite page, facilitates the work of reference. Each cardiogram is also accompanied by a brief case history. The new terminology for precordial leads is used, and lead 4F is employed exclusively. The usual common and rare conditions are covered, as one would anticipate, with nothing spectacularly new or different added, but the work is technically well done and the interpretations conservatively sound. There are numerous practice tracings without diagnostic sub-titles. No mention is made of the pattern (elevated ST segments in all 4 leads and upright T waves) noted by various authors in some cases of pericarditis.

One of the most valuable parts of the book is the short appendix of only three pages, which is entitled "Analytical Electrocardiographic Index". In this brief section is summarized the criteria for, and the usual diseases associated with abnormality of the various waves, complexes, and segments of a tracing. This index will serve as a point of departure for the student who recognizes that a cardiogram is not normal in certain respects but who cannot otherwise decide under what heading in the "General Subject Index" to check his suspicions.

EDWARD A. DELARUE, JR., M. D.

The Doctor and the Difficult Child. By WILLIAM MOODIE, M.D., F.R.C.P., D.P.M., Medical Director, London Child Guidance Clinic and Training Centre. 1940. New York. The Commonwealth Fund. 214 pages. Cloth. Price, $1.50.

This excellent book written by Dr. Moodie represents the doctors angle in treating the "Problem Child". It contains a detailed discussion of various behaviors like stealing, lying, backwardness, nervousness, enuresis, violent behavior, sex difficulties, anxiety, disturbance of sleep, etc.,—as well as treatment of same.

Although many important books on this subject have been written by psychologists and educators, the observations of an M.D. are most valuable to us. Among the various chapters, I found those on nervousness, psychoses, backwardness and enuresis very instructive. Although the book is written in a very readable fashion, it covers the most important behavior problems of children.

In our day when so much attention is being paid to the development of a healthy mind, a knowledge of this book is both very helpful and even necessary.

HARRY BRICK, M.D.

Office Urology. With a Section on Cystoscopy. By P. S. PELOUZE, M.D., Assistant Professor of Urology, University of Pennsylvania; Consulting Urologist, Delaware County Hospital; Special Consultant to United States Public Health Service; etc. W. B. Saunders Company. Philadelphia. 1940. Octavo of xi-766 pages. With 443 illustrations, 19 of them in color. Cloth. Price, $10.00.

This book offers to the "budding urologist" the practical experience of a man who has thinkingly spent many years in office practice. It has the virtue of completeness to the young man finishing a residency in urology; the volume can be used as a direct guide for everything from office lay-out to the choice of necessary instruments. Emphasis is laid on the methods of relief of the minor complaints which contribute so little to the interest of urologic practice and so much to the discomfort of the populace at

large. The chapters on the study of urine and prostatic fluid are especially good. Many urologists and most general surgeons who read this section will be amazed at the deductions which can be made from thoughtful study of these fluids.

Where Dr. Pelouze adheres strictly to office practice, the book is magnificent and a valuable contribution to urology. The chapter on the upper urinary tract is routine. The article on pyelitis or pyelonephritis the study of which is largely office practice could profitably be expanded particularly with reference to therapy. The illustrations are excellent, the only exception being figure 161. The style is that of an educated cultured man with a flair for the choice of the right word. It is possibly a trifle prolix. These minor criticisms are in no way intended to give the impression that the book is not, as a whole, a valuable acquisition to the field of urology. It is required reading for urologic buds and general surgeons.

CHARLES M. NELSON, M.D.

It Is Your Life. Keep Healthy. Stay Young. Live Long. By MAX M. ROSENBERG, M.D., Formerly in charge of Clinical Laboratory O.P. Dept. Beth Israel Hospital, Clinical Assistant in Internal Medicine, Beth Israel Hospital, Clinical Assistant in Pediatrics, Gouverneur Hospital. The Scholastic School Press. New York. 1940. Octavo of 450 pages, illustrated. Cloth. Price, $2.50.

This is one of the worst books by a physician that I have ever reviewed. To fully criticize it would entail a manuscript longer than the book itself. Justification for the above remarks can be found throughout the book. Being pharmacologically inclined, the reviewer was struck by what was presented in chapter 12, entitled "Drugs, Alcohol, Tobacco, Tea, Coffee, Cocoa, Chocolate. How They Injure Health and Shorten Life. Headaches and Their Treatments." In this fragment we encounter such choice tidbits as the following bearing on sulfanilamide: "Yet many doctors will continue prescribing it, just as they are prescribing many other poisonous coal-tar and other products because in some one case they may see a spectacular result, which could positively have been attained by a simpler and safer treatment." And then again there is this needless blasphemy to our profession, in the author's suggestion to the lay patient: "Do not hesitate to be critical even of your doctor when he is using destructive poisons to heal your ills. Ask him to use methods and medicines that will unquestionably bolster up your vitality and increase your natural resistance in fighting the disease, rather than have him administer something that will relieve you temporarily of a symptom but will ultimately be the cause of many worse ones." It is when the author preaches on alcohol that he really reaches his acme in the way of absurd-non-scientific statements. Equally as confusing is his tendency to make a statement and then refute it. As an instance of this he says "No scientific proof can be adduced to show that alcohol has any beneficial effect on health"; four pages later we encounter the statement "Light wines and beer are often of value in stimulating the appetite and helping digestion, especially in the aged and debilitated." In speaking of tobacco the author without comment dismisses scientific evidence to the contrary and gives nicotine as one of the primary cases of thromboangiitis obliterans. And so it goes.

If the reader has succeeded in getting this far in the book, he is quite ready to make use of the self-medication (incidentally ever abundant) hinted for the treatment of migraine and "many other types of intracranial headaches:

Caffein citrate, 12 grains.
Spirit ammonia aromatic.
Spirit ether compound.
Tincture lavender compound.
Tincture cardamom compound.
Of each 6 drams.

Mix. Take a teaspoonful, well diluted with water, every three hours; the dose may be repeated every hour two or three times for more prompt relief."

Interspaced between many unfortunate statements, a few samples of which have been given above, there is information of interest and value to the layman. Unfortunately, the unwarranted and unjustifiable remarks will tend to undo any good to which the book may aspire, and so this treatise is recommended for the immediate relegation to the limbo of useless and actually harmful books.

H. B. HAAG, M.D.

XUM

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WYNDHAM B. BLANTON, M. D.
Editor
AGNES V. EDWARDS
Business Manager

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All correspondence regarding editorial matter, original articles, and policy should be directed to the Editor. Questions relating to subscription rates, advertising, etc., should be addressed to the Business Manager, 1200 East Clay Street, Richmond, Virginia. The MONTHLY is not responsible for the opinions and statements of its contributors. All advertisements are accepted subject to the approval of the Council on Pharmacy and Chemistry of the American Medical Association. Annual Subscription, $2.00. Single Copies, 25c.

VOL. 68. MAY, 1941 No. 5

Editorial

The Nursing Situation in Virginia.

For the past ten years there have been marked changes made in the requirements for admission, training and graduation of nurses.

The State Nurses Association has followed the lead of the national association until the requirements for the teaching of nurses have become so burdensome that many hospitals have given up their training schools and have employed graduate nurses to conduct their institutions. Time was when a young woman who wished to enter the profession of nursing was admitted to the training school of some hospital and paid her way with her work, until she received her diploma. But, as the didactic requirements increased, she could give less and less of her time to the practical side and must spend more and more of her time in the class room, with trained paid instructors both here and in the laboratories, as this ever advancing curriculum demanded. Then it became apparent that the nurse must pay tuition fees to meet the increased cost of more classes and laboratory instruction. This has meant fewer training schools and, as a consequence, fewer nurses.

And now comes war or the imminent shadow of war! More and more nurses are needed in the ever growing number of camps and army hospitals. War takes the best, the youngest, the strongest, and it takes as many as it needs. It may not be denied.

More, and more nurses, are needed at a time when many wise men say there is a peace time scarcity of nurses to begin with. And so, those in authority have a huge problem dumped into their laps—how to get more adequately trained nurses quickly to meet the needs of the ever increasing army, how to fulfil their obligation to the people at home, to care for the sick and to see that the hospitals who graduated so many of these leaders themselves do not suffer. It is truly a big problem and it is a problem of the deepest significance, not only for the nursing profession but the medical profession and for the hospitals and for the public. It is a time of patience, tolerance and earnest cooperation in the interest of us all. W.L.P*

The U.S.P.H. Survey of Medical Care of the Indigents in Virginia.

In recent years all sorts of statements have been made about the medical care of the indigent and low income group—some of them facts, some of them doubtless figments of the imagination. We have been convinced that an enormous number of persons fall into this classification and we have been assured that their medical care was astonishingly inadequate.

*W. Lowndes Peple, M.D., Emeritus Professor of Clinical Surgery, Medical College of Virginia, Richmond.

In Virginia for several years the state Health and Welfare departments, with the help of doctors, dentists, nurses, hospitals and the public have been attempting to meet this situation as best they could wherever they found it. No one seems to know just what has been accomplished. It is now proposed with reason to utilize the facilities of the United States Public Health Service to conduct a survey to investigate all phases of the medical care of the indigent on relief and assistance rolls in the state. It will be made by a physician and a statistician through samplings of a few representative counties. It is proposed to limit the survey to a fact-finding study, the results of which will be filed with the departments of Health and Welfare. The president of the Medical Society of Virginia and the Chairman of the Society's Committee on Medical Economics are in accord in approving this survey and in urging the medical profession to answer promptly when called upon for information.

Similar studies have been made in New York and Minnesota, but up to the present time no printed report of the results has been made available to the general public. What may be the disposition of the Virginia survey we do not know. It is hoped that all interested will be in a position to learn from it how many indigents there are on relief and assistance rolls in this state, how much medical care they have needed, how well that care has been provided, how satisfied with it are the doctors, dentists, nurses and hospitals who have given the care, and how satisfied with it are its recipients; what we have to look forward to in the future in regard to it and what improvements should be recommended.

The American Psychiatric In Richmond.

In a few days the American Psychiatric Association, with a membership of approximately 2,500 physicians, will hold its 97th annual meeting in Richmond. The interest of Virginia doctors is enhanced by the fact that the association will have before it for election as its president-elect the nomination of Dr. J. K. Hall of Richmond. This is an honor not previously accorded a Virginia doctor.

Two Virginians were among the original thirteen medical superintendents who assembled at Jones's Hotel in Philadelphia October 16, 1844, to found the Association of Medical Superintendents of American Institutions for the Insane, as the organization was first called. They were Dr. Francis T. Stribling of the Western Lunatic Asylum at Staunton and Dr. James M. Galt of the Eastern Lunatic Asylum at Williamsburg. In 1893 the name of the association was changed to the American Medico-Psychological Association. It was not until 1921 that it assumed its present name. The Richmond meeting this year promises to be an important event with the leading psychiatrists of the state naturally assuming an active part and with many distinguished guests from far and wide being entertained within our gates.

The Time Incidence of Syphilis.

For several years now an active antisyphilitic campaign has been conducted in this country. We were told that one out of every ten persons was at one time or another the victim of this disease. The high incidence of syphilis among the colored race was well known and various hospital statistics were available to give the incidence of the disease among the white population. There have been skeptics who doubted that syphilis was anything like as prevalent in this country as the leaders in the campaign would have us believe.

The statistical report of the medical findings among 17,540 registrants under the selective service act in the New York City area up to January 31, 1941, brings to light some interesting facts concerning the national health among the young men of military age. Perhaps the most striking figures in this report deal with the incidence of syphilis. "There were only 121 who gave two positive serological tests, some of which were of asymptomatic syphilis. There was one case of aneurism of the aorta and four cases of syphilis of the central nervous system, making the total number of syphilis cases found 126, a percentage total of 0.72."

These figures accord well with the experience of the average doctors whose patients are chiefly drawn from the white middle class.

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Proceedings of Societies

Lynchburg Academy of Medicine.

Following a delightful steak dinner the regular meeting of the Academy was held at the Lynchburg General Hospital, April 7, with the President, Dr. Powell G. Dillard, presiding.

By a general show of hands, thirty-three members indicated their willingness to participate in any emergency which might arise in the State requiring medical attention.

Dr. Harper officially announced the opening of a premature station with ambulance at the Lynchburg General Hospital. He advised this was open to any member of the Lynchburg Academy of Medicine. The cost to the patient was $1.00 per day.

Dr. Kenneth Cooper was elected to membership.

Dr. James Thomson, neurosurgeon, Medical College of Virginia, presented a very interesting paper on "Scalenus Anticus Syndrome".

Dr. Leo Hand, in charge of anesthesia at the Lahey Clinic, reviewed the more recent forms of anesthesia and their application in a paper titled "Recent Advances in Anesthesia."

The Nelson County Medical Society,

At its regular meeting held at Lovingston, March 24, elected the following officers for the year 1941: President, Dr. W. M. Tunstall (re-elected), Lovingston; vice-president, Dr. E. C. Kidd, Lovingston; and secretary-treasurer, Dr. J. F. Thaxton (re-elected), Tye River. Delegate and alternate to the State Society meeting were also named at this time.

The subject of the increase in annual dues to the Medical Society of Virginia was brought up and freely discussed by all members present. It was the consensus of opinion that, in as much as the increase in dues was for the purpose of employing special counsel to prosecute illegal practitioners of medicine in the State, this was unnecessary and uncalled for, with the commonwealth attorneys not only competent but also paid for prosecuting these cases. The Nelson County Medical Society therefore goes on record as opposing this increase for this purpose and the secretary was instructed to notify the secretary of the State Society, with the request that those responsible for this action on the part of the State Society be notified of their protest.

J. F. THAXTON,
Secretary-Treasurer.

Norfolk County Medical Society.

The annual clinic of the Society was held on April 17, at which time the following program was given in the morning at St. Vincent's Hospital:

Report of an Interesting Case—Dr. A. A. Burke.
Pyloric Stenosis and Pylorospasm—Dr. Claiborne Willcox.
Planned Labor—Dr. C. J. Andrews.
Some Interesting Skin Cases Shown in Color Projections—Drs. James W. Anderson and Raymond Kimbrough.
Operability, Morbidity and Mortality Factors in Carcinoma of the Colon—Dr. R. L. Payne.
Common Affections of the Hand—Dr. George A. Duncan.
Urinary Calculi—Dr. Russell S. Ferguson, Urologist to the Naval Hospital and Professor of Urology, Cornell University Medical School, New York.

Following luncheon, there were two sessions in the afternoon. The one at St. Vincent's included:

Epididymitis—Dr. Bryant E. Harrell.
Peptic Ulcers in the Elderly Patient—Dr. R. DuVal Jones.
Carcinoma of the Cervix—Dr. Julian L. Rawls.
Marked Trauma to the Small Intestine without Injury to the Abdominal Wall—Dr. C. Carroll Smith.
Resection of Head of Pancreas for Carcinoma—Dr. M. H. Todd.
Use of Vaginal Smears as a Guide to Therapy—Dr. E. Lowenberg.
Presentation of Cases—Dr. M. S. Fitchett.
Head Injuries—Dr. Benjamin A. Doggett.

At the Norfolk General Hospital, the following program was presented:

Eye Findings in Diabetes—Dr. Wm. Wickham Taylor.
Hemo-pneumo Thorax—Dr. Brock D. Jones.
Prothrombin Time in Cerebral Hemorrhage in Adults—Dr. H. McGuire Doles.
Presentation of Cases—Dr. Frank H. Redwood
Presentation of Case—Dr. Wm. Arthur Porter.
The Use of the Sulfa-Drugs in General Practice with Special Reference to Toxicity—Dr. Walter B. Martin.
Headaches Treated with Histamine—Drs. A. Brownley Hodges and Beverley R. Kennon.
X-Ray Conference—Drs. Clayton W. Eley, K. K. Wallace, and Robert Williams.

Following this, an address was given in the Society's hall by Dr. Wyndham B. Blanton, Clinical

Professor of Medicine, Medical College of Virginia, and Editor of the VIRGINIA MEDICAL MONTHLY.

Dinner at Town Club brought to a close a most interesting program.

Speakers at other recent meetings of the Norfolk County Medical Society were:

Dr. Lloyd W. Ketron, associate professor of dermatology at Johns Hopkins University, whose subject was "Some General Observations on Dermatology";

Dr. Eugene P. Pendergrass of Philadelphia, who spoke on "The Roentgen Diagnosis of Intestinal Obstruction"; and

Drs. A. Brownley Hodges and Benj. A. Doggett of Norfolk, who presented papers on "Some Medical Problems in Thyroid Disease" and "Surgical Management of Goitre," respectively.

Patrick Henry Medical Society.

The regular quarterly meeting of this Society was held at the Broad Street Hotel, Martinsville, on April 18.

A new Constitution and By-Laws for the society was adopted, and delegates and alternates to the next meeting of the Medical Society of Virginia were elected.

The society approved plans for the establishment of a tuberculosis clinic for indigent patients in Henry County.

Mr. L. S. Macon of the Linde Air Products Company presented a moving picture on "Oxygen Therapy".

R. H. WALKER,
Secretary.

Richmond Academy of Medicine.

There was a symposium on "Peripheral Vascular Disease" at the meeting of the Academy on April 8, this being discussed as follows: "Pathology and Diagnosis" by Dr. E. L. Kellum; "Treatment" by Dr. Douglas G. Chapman; "Surgical Management" by Dr. H. J. Warthen; and "Varicose Veins and Ulcers" by Dr. Guy W. Horsley.

At the meeting on April 22, the following program was given: "Cantharides Poisoning" by Dr. John P. Lynch; "Lesions of the Proctoscopic Area" (illustrated) by Dr. W. W. Rixey; and "Mediastinal Emphysema and Spontaneous Pneumothorax" by Dr. M. M. Pinckney.

These meetings were followed by buffet suppers in the dining room of the Academy.

Dr. William B. Porter is this year's president.

Roanoke Academy of Medicine.

The regular monthly meeting of the Academy was held at Hotel Roanoke on April 7, with the president, Dr. K. D. Graves, presiding.

Dr. Robert A. Groff, Professor at Graduate Hospital, University of Pennsylvania, spoke on the subject "Brain Tumors, Diagnosis and Treatment."

Dr. LeRoy A. Schall, Professor of Otolaryngology, Harvard Medical School, Boston, Mass., spoke on "Malignancy: General considerations with Special Reference to the Nose and Throat."

Both of these papers were well illustrated with lantern slides and colored movies.

ALLEN BARKER,
Secretary-Treasurer,

Southwestern Virginia Medical Society.

The annual spring meeting of this Society was held in Pulaski on April 16th. The Society had the pleasure of hearing five guest speakers during the afternoon session, who presented a symposium on "Pain". Dr. I. A. Bigger, Dr. W. B. Porter, Dr. Finley Gayle, Dr. W. Gayle Crutchfield and Dr. Carrington Williams, all of Richmond, also spoke during the evening session.

The meeting was unusually successful with approximately one-half of the membership in attendance.

Between the afternoon and evening sessions, the Society was the guest of the physicians of Pulaski who entertained with a cocktail party at the Elks' Club.

During the evening session, Dr. B. P. Seward of Roanoke presented the guest speakers and Dr. W. R. Whitman also of Roanoke introduced the guest speaker of the evening, Dr. Walter B. Martin of Norfolk, President of the Medical Society of Virginia. Dr. Martin gave an interesting paper entitled: "The Use of Sulfanilamide Drugs by the General Practitioner With Special Reference to Toxic Reactions".

The following new members were received: Dr. A. G. Evans, Christiansburg; Dr. Thomas H. Kuhnert, Bristol; Dr. Joseph T. Graham, Draper; Dr. J. M. Rogers, Glade Springs; Dr. David S. Garner, Roanoke; Dr. Hal Davis, Roanoke; Dr. A.

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G. Schnurman, Radford; Dr. J. F. Chairsell, Jr., Christiansburg; Dr. Heinz C. Meyer, Konnarock.

The Society voted to remit the dues of all members called to temporary military service. Dr. C. B. Bowyer, Councilor for the Ninth District, spoke to the Society, requesting the appointment of county representatives to cooperate with the Councilor and the Medical Society of Virginia. This was so ordered.

The next meeting will be held in September in Roanoke.

JAMES P. KING,
Secretary.

The South Piedmont Medical Society

Met in Danville on April 16, under the presidency of Dr. Wm. L. Eastlack of South Boston. At the business session, the following officers were elected: President, Dr. E. E. Barksdale, Danville; vice-presidents, Dr. E. G. Scott, Lynchburg, Dr. Walter McMann, Danville, and Dr. C. B. White, Halifax; and secretary-treasurer, Dr. F. O. Plunkett, Lynchburg (re-elected).

The scientific program was as follows: "Sulfonamide Drugs" by Dr. George Barksdale Craddock, Lynchburg; "Convulsions During Anesthesia" by Dr. S. Newman, Danville; "Spinal Anesthesia" by Dr. Brown H. Carpenter, Danville; "Management of Fractures of Forearm," by Dr. Prentice Kinser, Jr., Danville; "Diagnosis and Treatment of Ovarian Failure During the Reproductive Period" by Dr. E. C. Hamblen, Durham, N. C.; "Significance of Difficulty in Swallowing" by Dr. Porter P. Vinson, Richmond; "Treatment of Massive Pulmonary Collapse" by Dr. E. G. Scott, Lynchburg; "Recent Advances in Surgery of Stomach and Colon" by Drs. John W. Devine and John W. Devine, Jr., Lynchburg; "Medical Aspects of Pyelo-Nephritis" by Dr. H. W. Brownley, Lynchburg; "Treatment of Industrial Injuries" by Dr. I. K. Briggs, South Boston; and "A Study of Eighty-Three Cases Post-partum Sterilizations in the Lynchburg General Hospital During the Past Three Years" by Dr. F. O. Plunkett, Lynchburg. Supper at Hotel Burton followed the meeting.

The next meeting of the Society will be in South Boston on November 19.

News Notes

Time to Make Reservations.

As time is at hand to plan for the coming meeting of the Medical Society of Virginia at Virginia Beach, October 6 to 8, we list hotels which will be open at the Beach at that time, and suggest that members make early reservations in view of the crowded conditions of hotels in that section:

THE CAVALIER (HEADQUARTERS HOTEL) — Special convention rates will be on the American Plan $8.00 per person daily for twin bedded rooms with private bath, and $9.00 daily for single rooms with private bath. These rates include without additional charge free parking, free golf on the Cavalier 18-hole championship golf course (golf at the Princess Anne Club, which is not owned by the hotel, will be $2.00 per person daily), free swimming in the Cavalier's heated, salt water pool with free dressing rooms in the lower lobby of the hotel.

The banquet is included in the American plan rate for those staying at the Cavalier and for those staying in other hotels the banquet charge will be $2.00 per person. There will be no charge for tennis to the convention delegates, nor will there be any charge for archery, croquet, Gopher Golf, or Ping Pong.

THE GAY MANOR HOTEL—Adjoining the property of the Cavalier, will extend rates of $5.00 per person for twin bedded rooms daily and $6.00 for single rooms daily on the American plan and $2.50 per person for double rooms and $3.00 per person for single rooms on the European plan. The rates quoted above are for rooms with private bath or connecting bath.

THE PRINCESS ANNE COUNTRY CLUB—Offers the following rates for rooms with private bath on the American plan: $7.50 per person daily for the double occupancy of rooms and $8.50 for single rooms. For double rooms with shower bath between they offer rates of $6.50 per person on the American plan and for single rooms

with shower bath between—$7.50 per person. On the European plan they offer rates of $4.00 per person for the double occupancy of rooms with private bath, $5.00 for single rooms with private bath, $3.00 per person for double rooms with shower bath between and $4.00 for single rooms with connecting shower bath between.

Attention is called to the fact that members who wish to present papers at this meeting should have their titles with abstracts at the Society's office by June 1.

Several doctors have indicated that they will exhibit their hobbies at this time. This is a new feature and we hope members will assist in making it an attractive one.

Virginia Society of Oto-Laryngology and Ophthalmology.

The annual meeting of this Society will be held the Richmond Academy of Medicine Building in Richmond, on Saturday, May 10, beginning at ... m. Dr. E. T. Gatewood is chairman of the local committee in charge. The program includes papers by two guests—Dr. James Babbitt of Philadelphia, whose subject will be "Geriatrics and its Role in Otology," and Dr. Edwin B. Spaeth, also of Philadelphia, who will speak on "The Surgical Treatment of Neurofibroma of Orbit"—in addition to those by the following members: Drs. Mortimer H. Williams, George M. Maxwell and E. G. Gill of Roanoke, Dr. McGuire of Winchester, Dr. Gatewood of Richmond, Dr. C. M. McCoy of Norfolk, and Dr. F. H. McGovern of Danville.

Dr. G. G. Hankins of Newport News is president and Dr. Guy R. Fisher of Staunton secretary.

Southern Society of Clinical Surgeons.

The fifteenth annual meeting of this Society was held at the Medical School of the University of Virginia, Charlottesville, and at the Medical College of Virginia in Richmond, April 3-5, this being its first meeting in Virginia. Its membership is limited to fifty and eight of these are from Virginia: Drs. I. A. Bigger, R. H. Hoge (admitted this year), Harry J. Warthen and Carrington Williams of Richmond; Dr. R. DuVal Jones of Norfolk; and Drs. C. Bruce Morton, J. M. Nokes and Arthur M. Smith of Charlottesville.

An excellent scientific program was carried out under the presidency of Dr. J. S. Speed of Memphis, and social features added to the pleasure of those attending. One action of the Society was to vote the erection of a bronze tablet at St. Elizabeth's Hospital, Richmond, in memory to Dr. John Shelton Horsley, Jr., a charter member and the first member to die in the Society's history.

Dr. C. Bruce Morton, of Charlottesville was elected president; Dr. Malcom D. Thompson of Louisville, Ky., vice-president; and Dr. William Perrin Nicolson of Atlanta was re-elected secretary-treasurer. St. Louis, Mo., was selected as the 1942 place of meeting.

American Medical Association.

The Official Call has been issued for the ninety-second annual meeting of the Association to be held in Cleveland, Ohio, from Monday, June 2nd to the 6th. The House of Delegates will convene on the 2nd. The Scientific Assembly will open with the general meeting on the 3rd at 8 P. M., and the various sections will begin on the 4th.

BOWLING

Plans are on foot to have a bowling tournament during the next meeting of the American Medical Association. It is hoped that teams can be formed representing various States. Physicians who are interested in bowling should contact Dr. Lewis W. Bremerman, 1709 West 8th Street, Los Angeles, California.

GOLFING

The American Medical Golfing Association's twenty-seventh annual Tournament will be held at Cleveland Country Club-Pepper Pike Club, Cleveland, Ohio, June 2. Two famous championship courses and a beautiful clubhouse await the nation's medical golfers in Cleveland on the occasion of the A.M.A. Convention.

Some 250 of the 1,413 Fellows of the A.M.G.A. are expected to take part in this 36-hole competition. Each contestant will play both courses. The sixty prizes, in the nine Events, will be distributed after the banquet at the Cleveland Country Clubhouse.

All members of the A.M.A. are eligible for Fellowship in the A.M.G.A. Write the Secretary, Bill Burns, 2020 Olds Tower, Lansing, Michigan, for registration application.

The Gill Memorial Eye, Ear and Throat Hospital

Has just completed its fifteenth Annual Spring Graduate Course, which was successful in every way,

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with a total registration of seventy doctors. The following comprised the guest faculty:

Dr. Alfred Cowan, Philadelphia.
Dr. Robert A. Groff, Philadelphia.
Dr. James H. Maxwell, Ann Arbor, Mich.
Dr. Paul M. Moore, Cleveland, Ohio.
Dr. Raymond E. Meek, New York.
Dr. C. Stewart Nash, Rochester, N. Y.
Dr. A. B. Reese, New York.
Dr. A. D. Ruedemann, Cleveland, Ohio.
Dr. LeRoy A. Schall, Boston.
Dr. C. R. Straatsma, New York.
Dr. T. L. Terry, Boston.
Dr. Arno T. Town, New York.
Dr. Warren T. Vaughan, Richmond.
Dr. Frank B. Walsh, Baltimore.

"Bundles for Britain."

As much as we individually might be in sympathy with the "Bundles for Britain" movement, one recent phase of it hardly has our approval.

At several points in the country there has been a movement to collect samples left by pharmaceutical detail men in physicians' offices and include them in the shipments for British Relief. This is an expensive and uncontrolled way of supplying pharmaceutical products, and many samples left physicians would be dangerous if used indiscriminately without the advice of a physician.

Most of the Pharmaceutical manufacturers have individually donated supplies with vitamin capsules and other needed pharmaceutical products to the British Relief at no charge. The packaging of these samples increases the cost and, if these samples are collected and sent to Britain, the purpose for which they were intended, that is, for the use of physicians, is not accomplished, and the heterogeneous material that reaches British Relief probably would have little value.

In some cases individual City and County Medical Societies have been asked to cooperate with the collection of these samples. It is believed that such cooperation should be refused for the obvious reasons stated.

Medical College of Virginia News.

The annual Stuart McGuire Lectures and Spring postgraduate clinics were held April 24 and 25. Dr. Alfred Blalock of Vanderbilt University gave the McGuire lectures, the first on Pathogenesis of Shock and the second on Prevention and Treatment of Shock. Speakers on the postgraduate clinic program were: Dr. L. R. Broster, Senior Surgeon to Charing Cross Hospital, London, speaking on Recent Developments in the Treatment of War Wounds; Lieutenant Colonel David N. W. Grant, Chief Medical Division, United States Army Air Corps, Medical Division, Occupational Fatigue as Manifested in Flying Personnel; Dr. Henry K. Beecher, Chief, Department of Anesthesia, Massachusetts General Hospital, Clinical Aspects of Anesthesia and Shock; Dr. C. C. Coleman, Professor of Neurological Surgery of the college, Penetrating Wounds of the Brain, and Dr. Harry J. Warthen, Associate professor of Surgery, Gas Bacillus Infection.

Mr. George W. Bakeman, who has been in charge of the Paris office of the Rockefeller Foundation for a number of years, has been appointed Assistant to President Sanger.

The annual lectureship sponsored by Psi Omega dental fraternity will be given at the Simon Baruch Auditorium on May 5 by Dr. William J. Gies. Dr. Gies' topic will be Medicine and Dentistry in Health Service.

Dr. Alton D. Brashear, Assistant Professor of Anatomy, has been made a member of the supreme council of Psi Omega fraternity.

The ex-internes of the Hospital Division of the college held their annual reunion on April 23. The program for the reunion included clinical-pathological conferences as well as the postgraduate clinics and the McGuire Lecture program. A tour of the new hospital, a smoker, and a banquet concluded the day's activities.

Alpha Epsilon Iota, women's medical fraternity, sponsored a lectureship on April 18 by Dr. Josephine Neal, Clinical Professor of Neurology of the College of Physicians and Surgeons, Columbia University. Dr. Neal spoke on Acute Encephalitis with Special Reference to Infectious Diseases.

On April 3 the college was host to the fifteenth annual convention of the Southern Society of Clinical Surgeons. Following operative clinics in the morning the group made a trip to Williamsburg in the afternoon. Dr. Randolph H. Hoge, Assistant Professor of Anatomy and Surgery at the college, was elected to membership in the Society at its meeting here.

Dr. H. Hudnall Ware, Jr., Associate Professor of Obstetrics, recently addressed the Fredericksburg Medical Society on Ectopic Pregnancy.

The College will act as host to the Virginia Academy of Science May 1-2-3 for its annual meeting. A splendid program has been arranged for the occasion.

The Society of Neurological Surgeons will also meet at the college May 1-2-3 for operative clinics and program of lectures.

News from University of Virginia, Department of Medicine.

On March 21, Dr. John M. Meredith participated in the Post-Graduate Course in Medicine and Surgery for the Elizabeth City County Medical Society conducted under the auspices of the Department of Clinical and Medical Education of the Medical Society of Virginia. His subject was Surgical Aspects of Sciatica. On April 4, Dr. Robert V. Funsten presented a lecture before this Society on Simplified Treatment of Certain Fractures, and on April 11, Dr. William H. Parker, spoke on Carcinoma of the Cervix.

On March 22, Dr. Fletcher D. Woodward addressed the Faculty and Medical Students of the University of Texas Medical College in Galveston. His subject was Diseases of the Esophagus.

The Phi Lambda Kappa Lecture was given on March 31, by Dr. Samuel Loewenberg, Professor of Medicine at the Jefferson Medical College of Philadelphia. He discussed Endocrinopathies.

At the meeting of the Alleghany-Bath and Greenbrier Valley Medical Society at White Sulphur Springs on April 3, Dr. Henry B. Mulholland spoke on The Modern Conception of the Treatment of Diabetes.

On April 3, the Southern Society of Clinical Surgeons spent the first day of their three-day annual meeting at the University of Virginia. After the operative clinic the following dry clinic was presented in the forenoon: Thrombophlebitis in a Sympathectomized Limb by Dr. Edwin P. Lehman; Total Gastrectomy—Three Successful Cases by Dr. C. B. Morton; Chest Tumor by Dr. E. C. Drash; Appendix Abscess—Conservative Treatment by Dr. W. H. Parker; Multiple Stones in Common Bile Duct by Dr. W. R. Hill; Annular Pancreas by Dr. E. P. Lehman; Non-Rotation of Colon—Operative Rotation by Dr. C. B. Morton; Actinomycosis of the Stomach by Dr. W. H. Parker, and Developmental Anomalies by Dr. H. E. Jordan. The morning program included also a paper by Drs. E. P. Lehman and Floyd Boys on Experiments with Heparin and one by Dr. S. W. Britton on The Influence of Extracts of the Pituitary Gland and Adrenal Cortex on Water Balance. At the afternoon session the following program was presented: Dr. Alfred Chanutin spoke on Studies on Calcium Metabolism with the Aid of the Ultra-centrifuge; Drs. G. M. Lawson and E. P. Lehman presented a paper on Clinical Experience with Sulfanilylguanidine; Dr. E. M. Landis discussed Pressor Activity of Extracts of Human Kidney in Relationship to Hypertension; Dr. W. W. Waddell, Jr. spoke on Clinical Studies on Vitamin K; and Dr. G. C. Ham discussed Studies on Antidiuretic Substances in the Urine of Patients with Toxemias of Pregnancy. The meeting was continued at the Medical College of Virginia in Richmond on April 4, and 5.

The twenty-seventh Post-Graduate Clinic sponsored by the University of Virginia Medical School and the Division of Extension was held on April 11. The following program was presented: Sulfonamide Compounds in Medicine by Dr. J. E. Beckwith Sulfonamide Compounds in Surgery by Dr. W. H. Parker; Fluid Balance by Dr. Staige D. Blackford; Administration of Fluids by Dr. W. R. Hill; Digitalis Therapy by Dr. J. Edwin Wood, Jr. and Dr. John Hortenstine; Diuretics by Dr. E. M. Landis; Treatment of Deficiency States by Dr. H. B. Mulholland; Treatment of Anemias by Dr. Byrd Leavell; The Female Sex Hormones by Dr. Tiffany J. Williams; and The Male Sex Hormones by Dr. Samuel Vest. Eighty-two physicians attended the Clinic.

The third Alpha Omega Alpha Lecture was presented on April 11, by Dr. Homer W. Smith, Professor of physiology at the New York University College of Medicine. Dr. Smith spoke on the subject, The Quantitative Study of Renal Function.

Congratulations to Dr. Griffith!

Dr. R. S. Griffith of Waynesboro on April 16, celebrated his eightieth birthday and yet is as hale and hearty as many men much younger in years.

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A native of Maryland, he came to Virginia in 1891, locating at Basic City (now included in Waynesboro), and has practiced his profession there continuously for the past fifty years. May he enjoy many more birthdays!

The West Virginia State Medical Association

Is holding its annual meeting in Charleston, May 12, 13 and 14, under the presidency of Dr. Robert King Buford of that city. There are a number of guest speakers on the program which includes many interesting subjects. Mr. Joe W. Savage of Charleston is executive secretary.

The Medical Society of the State of North Carolina.

The annual meeting of this Society will be at Pinehurst, May 19 - 21, with headquarters at the Carolina Hotel—always a popular meeting place. Dr. Hubert B. Haywood of Raleigh is president and Dr. I. M. Manning of Chapel Hill is secretary.

Dr. Emily Gardner

Has been appointed chairman of the medical committee of the Richmond Tuberculosis Association. Serving with her are Drs. D. D. Talley, S. A. Anderson, Jr., Kinloch Nelson, A. S. Hurt, Jr., T. Dewey Davis, C. L. Outland, M. M. Pinckey, and W. E. Chaplin.

The Greenbrier Interstate Medical and Surgical Society

Held its third annual spring meeting at The Greenbrier Hotel, White Sulphur Springs, W. Va., on April 3rd, with Dr. Herbert Duncan of Lewisburg, W. Va., president, presiding. About fifty were present including members of the Greenbrier Valley Medical Association of West Virginia and the Alleghany-Bath Medical Society of Virginia.

Dr. J. M. Emmett of Clifton Forge arranged the program. Those taking part were Dr. H. B. Mulholland, Professor of Medicine of the University of Virginia, who presented a paper entitled, "Modern Concepts in the Treatment of Diabetes Mellitus", illustrated with lantern slides.

A paper on "Pneumonia" was presented by Dr. Dean Cole of Richmond, and included a discussion of the relative merits of sulphapyridine and sulphathiazole in treatment. Dr. J. Morrison Hutcheson of Richmond, Clinical Professor of Medicine of the Medical College of Virginia, discussed "Acute Spontaneous Pneumothorax Simulating Coronary Thrombosis". He gave the history of several cases where these two conditions were the subject of a mistaken diagnosis.

The Society meets annually at White Sulphur Springs, and there are no dues and no special officers except those of the respective County Medical Societies.

A collation was served by the courtesy of the Greenbrier and Dr. Guy Hinsdale, Medical Director.

Lederle Adds Cerevim to List of Council Acecpted Products.

Most recent addition to the Lederle line of ethical pharmaceuticals and biologicals is Cerevim, an advanced cereal formula for babies and infants, formerly distributed by the Cerevim Products Corporation. In announcing the addition of this established product to their line, Lederle Laboratories emphasize that they will continue to follow their own policy of detailing physicians and selling through retail druggists only—which is the same basis on which substantial sales for Cerevim have been established already.

Cerevim is Council-Accepted and has the full endorsement of the Council on Foods of the American Medical Association.

The American Association for the Study of Goiter

Will hold its annual meeting in the Hotel Statler, Boston, Mass., May 12, 13 and 14, 1941, instead of the date originally announced.

The program for the three day meeting will consist of papers dealing with goiter and other diseases of the thyroid gland, dry clinics and demonstrations.

Dr. R. B. Turnbull,

Formerly of Blue Ridge Sanitorium, Charlottesville, is now associated with Pinecrest Sanitarium at Beckley, W. Va.

Dr. John D. Thomas,

Washington, D. C., for many years a member of the Medical Society of Virginia, announces the removal of his office and residence to the Parkwood, 1746 K Street, Northwest, that city.

The Society of Neurological Surgeons

Will meet in Richmond on May 1, 2 and 3, with headquarters at the Hotel John Marshall. This Society was organized in 1921, largely through the

efforts of Dr. Harvey Cushing and Dr. Charles H. Frazier. The scientific program has been arranged by the Virginia member of the Society, Dr. Claude C. Coleman. All scientific meetings will be held at the Medical College of Virginia Hospital. Operative Clinics are scheduled for the mornings of May 1 and 2, by the Neuro-surgical Staff of the Medical College of Virginia. On May 3, the members of the Society, the wives and guests will visit Williamsburg, Yorktown and Jamestown.

Dr. Howard Fleming, of San Francisco, is the president of the Society and Dr. Winchell Craig, of the Mayo Clinic, is secretary. Important medical teaching centers of the United States and Canada will be represented in the attendance.

Return from Florida.

Dr. E. F. Younger, who has been spending the winter season at St. Petersburg, Fla., has returned to his home in Lynchburg.

Dr. D. Hunter Marrow, after a winter spent at Daytona Beach, Fla., has returned to Boydton, as usual.

Dr. T. Neill Barnett

Richmond, will be among those taking part in the round table conference on "Sigmoidoscopy," at the annual meeting of the National Gastroenterological Association, in New York on May 13-16.

Dr. W. H. Parker

Has returned to the University of Virginia Hospital, Charlottesville, after some time spent at Memorial Hospital, New York City.

Dr. Edgar A. Pole

Has returned to Hot Springs, after some time spent in Charlottesville.

Dr. E. G. Gill

Of Roanoke delivered an address by invitation at the New York Eye and Ear Infirmary as of their guest speakers for their annual Post Graduate Program on March 29. His subject was "Management of Foreign Bodies in the Air and Food Passages," and this was illustrated with lantern slides and motion pictures.

Dr. R. E. Booker,

Lottsburg, has been elected a member of the board of directors of the Northumberland Rotarians, for the coming year.

Dr. Mason Romaine

Has been appointed by the city Council of Petersburg as full time health officer of that city, and will enter upon this work about May 1. Dr. Romaine has been serving in this capacity on a part time basis for some time.

Dr. Lee S. Liggan,

Irvington, has been elected vice-president of the Kilmarnock-Irvington-White Stone Rotary Club.

Married.

Dr. Charles Robins, Jr., and Miss Susan Clay, both of Richmond, April 19.

Dr. David H. Rosenfeld, Richmond, and Miss Ruth Alyce Keren, Washington, D. C., March 30.

Changes in Personnel of State Department of Health.

Dr. James M. Suter, Health Officer of Bristol-Washington County Health Department, has been called to military duty.

Dr. C. L. Savage resigned from the Hanover County Health Department in April. Dr. J. D. Hamner, formerly Health Officer of Southampton County, has been transfered to Hanover.

Dr. Hubert D. Crow, formerly assistant Health Officer of Brunswick-Greensville-Mecklenberg Health District, has been transfered to Southampton County.

Wanted—

Physician. Preferably young man who has had some experience in psychiatry of who wishes to enter this field; to associate in psychiatric work at nervous and mental private hospital. An attractive position with opportunity if he succeeds in the work. Address "BXY," care of this JOURNAL. (*Adv.*)

Obituary Record

Dr. George Johnson Tompkins,

Prominent physician of Lynchburg, died April 2, following a heart attack. He was born in Lexington in 1873 and graduated from the Medical College of Virginia in 1894. Dr. Tompkins had practiced in Lynchburg since 1899, specializing in diseases of the eye, ear, nose and throat. He was very active in medical and religious affairs of his city. Dr. Tompkins had been a member of the Medical Society of Virginia for forty-seven years, during which time

he had served as a vice-president and a member of the Council. His wife and five children survive him. A brother is Dr. E. Pendleton Tompkins of Lexington.

Dr. Harry Barton Hinchman,

Well known physician of Richmond, died following a heart attack on April 7. He was fifty-one years of age and a graduate of the Medical College of Virginia in 1916. Dr. Hinchman was a member of the Richmond Kiwanis Club, the Knights of Columbus, and several other social and fraternal organizations. He had been a member of the Medical Society of Virginia since 1925. His wife, a sister and three brothers survive him. Two brothers are Drs. J. Doherty and F. Ernest Hinchman, both of Richmond.

Dr. Richard H. Peake.

As it must come sometime to all men, death came on March 6, 1941, to Dr. Richard H. Peake, long a prominent and influential physician of Norfolk, Virginia.

Dr. Peake left behind a lengthy list of good works and accomplishments. For a number of years, he was chief of a gynecological service at the Norfolk General Hospital. It was here that his professional ability was greatly manifested to the indigent. The crowning glory of his career, however, was his tireless and persistent championship of the younger physician, of whose problems, both in and out of the profession, he was ever mindful.

Dr. Peake was born in 1890. He was the son of Captain James G. Peake, Sr., and the late Mrs. Nellie Bew Peake. He received his medical degree in 1915 from the Medical College of Virginia. During the summers of 1912, '13 and '14, he served externships at the Norfolk Protestant Hospital. In 1915 and '16 he served an internship at the same hospital. He was made President of the Medical Staff of the same institution (now the Norfolk General Hospital) in 1935 and was a member of the Executive Medical Board during 1935, '36 and '37.

For years Dr. Peake had not been strong, but he remained actively in practice until twenty-one months prior to his death.

Of our beloved deceased colleague, be it

RESOLVED:

That we, the Medical Staff of the Norfolk General Hospital, regret the death of our friend and associate.

That, this Staff will miss his good advice and sound judgment.

That, we have lost not only a beloved colleague, but a sincere friend.

That a copy of these resolutions be placed upon the Permanent Minutes of the Norfolk General Hospital, a copy be sent to the VIRGINIA MEDICAL MONTHLY, and to Dr. Peake's family.

A. B. HODGES
N. F. RODMAN
K. K. WALLACE

Resolutions on Dr. John Wyatt Davis, Sr.

"In the midst of life we are in death." Ever and anon this melancholy truth is borne in upon us. Today, we of the Lynchburg Academy of Medicine, in the midst of life, pause to pay tribute to the character and memory of a fellow member who, on February 27, 1941, passed to life eternal, Dr. John Wyatt Davis, Sr.

Dr. Davis was one of the older physicians of this city, having begun the practice of medicine forty-two years ago in Richmond, Virginia. Then followed a period of four years at Rustburg, during which time he married, and, finally, thirty-five years ago he located in Lynchburg where by faithful industry he established himself and built up a large private practice.

When the United States entered the World War he enlisted in the Navy, was sent first to St. Helena Training Station and later assigned to the Atlantic Transport Service, accompanying The American Expeditionary Forces to France. In 1919 he was honorably discharged from the Navy and the following year went as Medical Officer with a regiment of Marines to the West Indies. In 1922 he returned to Lynchburg and has since been in continuous practice here.

Dr. Davis was a member of a number of medical organizations, National and State and served one term as president of the Lynchburg Academy of Medicine and also in other elective offices in local medical circles, all of which profited by his wise and faithful administration.

He was known amongst us for his diligent attention to his work, his unfailing courtesy and his personal charm expressed in the manner of a typical Virginia gentleman. Wholly without ostentation he gave generously of his time and often of his purse to the sick and needy.

As we review this brief sketch of the life of John Wyatt Davis, we are moved as follows:

BE IT RESOLVED, that the Lynchburg Academy of Medicine, Inc., in regular session assembled, hereby records its sorrow in the death of this fellow member, and that this resolution be spread on the minutes of the Society and a copy be sent to his family and to the VIRGINIA MEDICAL MONTHLY.

GEO. J. TOMPKINS, *Chairman*
ROBERT M. TALIAFERRO
H. P. BROWN

Dr. Benjamin Franklin Babb,

Ivor, died March 31, after a short illness. He was seventy-seven years of age and graduated from the Department of Medicine, University of Maryland, in 1892. His wife and seven children survive him.